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(1894-1947)
Assistant Secretary-Editor
State Medical Association of Texas
Fort Worth, Texas

Texas State Journal of Medicine

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

Dr. Reuben Bennett Anderson, Jr., Fort Worth, for twenty years assistant secretary of the State Medical Association of Texas, and assistant editor of the TEXAS STATE JOURNAL OF MEDICINE, died in his office, at Fort Worth, January 2, 1947, of coronary occlusion.

Dr. Anderson was born December 14, 1894, at Seguin, Texas, the son of Dr. Reuben Bennett Anderson and Mrs. Ella Conway Anderson. He was educated in the public schools of Sherman, Texas, and Austin College, Sherman, from which latter institution he was graduated with the degree of bachelor of arts in 1914. He received his medical education in the Medical Branch of the University of Texas, Galveston, being graduated from that institution with the degree of doctor of medicine in 1918. During his senior year, he served an internship at John Sealy Hospital, Galveston. He later took postgraduate work in eye, ear, nose, and throat at Charity Hospital, New Orleans.

Following his graduation in medicine, during World War I, Dr. Anderson accepted a commission as lieutenant in the Medical Corps of the Navy, serving in that capacity for two and one-half years, first at a station in New Orleans, then with the transport service, and following that at a station in Santo Domingo. Following his discharge from the Navy, he returned to Texas in 1921, locating at San Marcos for the practice of general medicine. He moved from San Marcos to Thorndale, in 1923, entering general practice at that place in partnership with the late Dr. E. L. Laurence. In 1927, he moved to Fort Worth, joining the staff of the State Medical Association of Texas, as assistant secretary-editor, which connection he held at the time of his death.

Dr. Anderson was a member of the State Medical Association of Texas, through the Hayes County Medical Society from 1921 to 1923; the Milam County Medical Society from 1924 to 1927, and the Tarrant County Medical Society from 1927 to 1947. He had been a fellow of the American Medical Association for many years, and an alternate delegate from Texas to the American Medical Association since 1927, during which time he served as delegate at three sessions. He was at one time a member of the Fort Worth Eye, Ear, Nose, and Throat Society.

Dr. Anderson was a member of the St. Andrew's Episcopal Church and served that institution for a number of years as vestryman and as junior warden. He was a Mason and a member of the Sons of Hermann Lodge. He was a past president and a member of the board of directors of the Fort Worth Anglers Club, a former member of the Tarrant County Wildlife Association, and of the Lake Worth-Eagle Mountain Lake advisory board to the Texas Game, Fish, and Oyster Commission. He served on the school board during his years of practice in Thorndale.

Dr. Anderson married Miss Katharine Raynolds of Waco, at Houston, in February, 1918. She preceded him in death, January 31, 1941. He married Mrs. Modena Hackney Landess of Fort Worth, December 27, 1944. Mrs. Anderson, with a daughter by a former

marriage, Mary Jacquelyn Landess, survive him. He is also survived by a daughter, Mrs. Robert W. Spence, Jr., and her twin daughters, Katharine Ann and Mary Patricia Spence, Austin; a sister, Mrs. F. R. Early, Bangs; a half-sister, Mrs. L. A. Machemehl, Dallas; a half-brother, Dr. Roland B. Anderson, Orange; and his step-mother, Mrs. R. B. Anderson, Sr., Seguin.

During his service with the State Medical Association, Dr. Anderson contributed notably to each and every activity of the Association. His principal and primary service was with the JOURNAL. Upon the reorganization of the Library of the Association, he became Librarian, and the development of the Library was due mainly to his direction. During World War II, he served as vice-chairman of the Procurement and Assignment Service, and during the latter half of that service practically directed its entire activities. For this service he received a letter of commendation signed by the President of the United States. Upon removal of the office of the Public Relations Committee to the central office of the Association at Fort Worth, Dr. Anderson assumed the chairmanship, and later the secretaryship of the committee and, under instructions from the committee, directed its activities.

It would be most difficult, indeed, properly to evaluate the services of Dr. Anderson, or to express the appreciation thereof by his associates in that service, and the medical profession of Texas. His contributions to the welfare of the medical profession of Texas and its dependent lay public, and, indeed, to the medical profession of the entire country, have been many and important. His replacement will be a problem of the first magnitude.

The Annual Session for 1947 is less than three months away. Perhaps May 5, 6, 7, and 8 are already marked on the calendar, but today should also be marked on the calendar. Now is the time to make reservations for hotel accommodations in Dallas, for rooms will be at a premium and cannot be assured at the last minute.

The Hotels Committee, composed of Dr. Jack G. Kerr, chairman, and Drs. Murphy Bounds, Jo C. Alexander, Glenn D. Carlson, Alvin Baldwin, and Andrew Small, has surveyed the situation in Dallas and has furnished the following information regarding space and rates:

DALLAS HOTELS

Hotel	*Rates*
Adolphus	Double, $2.50-$7.00
Baker	Double, $2.50 up
Clifton	Double, $2.75
Jefferson	$1.50 up
Lakewood Hotel	Single, $3.50-$4.00 Double, $5.00-$6.00
Lawn Hotel	Single, $3.50-$4.00 Double, $5.00-$6.00
Lomo Alto Hotel	Single, $3.50-$4.00 Double, $5.00-$6.00
Mayfair	$2.00 up
Melrose	$3.00-$5.00
Southland	$2.00 up
Stoneleigh	Single, from $3.50 Double, from $4.50
White-Plaza	Double, $3.50-$7.50
Whitmore	Single, from $2.00 Double, from $4.00

DALLAS TOURIST COURTS

Court	*Rates*
Grande Lodge	Single, $2.50 Double, $4.00-$5.00
Motor Inn Hotel	Double, $2.50-$3.50 Connecting rooms up to 5 persons, $5.00-$6.00
Tower Hotel Courts	Single, $4.00 Double, $5.00 Twin beds, $6.00
Town House Tourist Courts	Double, $6.00 Twin beds, $7.00

If difficulty in securing reservations is encountered, members of the Hotels Committee, all of whom can be reached at the Medical Arts Building, Dallas, will be glad to assist in securing satisfactory accommodations.

Other committees are at work preparing for the annual session. The Council on Scientific Work met in Fort Worth on January 19 to consider the programs arranged by officers of the scientific sections, and other matters directly concerned with the program as a whole. Most of the section programs were complete or very nearly so, and the speakers and subjects planned for the May meeting promise an interesting and instructive session.

Additional details concerning the program will be announced later. In the meantime, those who wish to attend the annual session in Dallas are urged to make hotel reservations at their earliest opportunity.

The Dallas Southern Clinical Society for the sixteenth time will make available this year to physicians of Texas and the Southwest, a clinical conference designed to give the general practitioner and the specialist authoritative and practical information. This sixteenth annual spring clinical conference will be held March 17-20 in Dallas. Hotel Adolphus will be headquarters for the con-

ference, but some meetings will be held in the Baker Hotel, across the street.

Fifteen of the country's eminent medical teachers will be presented in general assembly addresses designed to appeal to all those who attend. Symposia and afternoon and evening lectures on correlated subjects are planned, and questions on pertinent subjects will be welcomed at the daily round table luncheon conferences. The distinguished guests who will lead the thinking in these programs include the following:

Dr. Elmer Belt, Los Angeles (urology).
Dr. William Boyd, Toronto (pathology),
Dr. Frank D. Dickson, Kansas City (orthopedic surgery).
Dr. F. Bruce Fralick, Ann Arbor (ophthalmology).
Dr. L. H. Garland, San Francisco (radiology).
Dr. George H. Humphreys, New York (surgery).
Dr. J. R. Lindsay, Chicago (otolaryngology).
Dr. Perrin H. Long, Baltimore (preventive medicine).
Dr. H. G. Poncher, Chicago (pediatrics).
Dr. I. S. Ravdin, Philadelphia (surgery).
Dr. Ralph A. Reis, Chicago (obstetrics and gynecology).
Dr. Newton D. Smith, Rochester, Minn. (proctology).
Dr. Willard Owen Thompson, Chicago (medicine).
Dr. John C. Whitehorn, Baltimore (neuropsychiatry).
Dr. Julius L. Wilson, New Orleans (medicine).

A group of competent Dallas physicians will present a series of postgraduate lectures and participate in Wednesday afternoon clinics. A comprehensive schedule of teaching motion pictures is being arranged, and representative commercial concerns will exhibit.

Every physician who is a member of his county medical society is invited to take advantage of the clinical conference. A registration fee of $15 entitles the physician to participate in all phases of the meeting. Because a large attendance is anticipated, officials of the Dallas Southern Clinical Society recommend that those who expect to be present make hotel reservations immediately, directly with the hotels of their choice, and also register with the executive secretary of the society, 433 Medical Arts Building, Dallas 1, Texas.

The spring conferences of the Dallas Southern Clinical Society have proved their value in the past. There is every reason to believe that the 1947 conference will be equally worth while for the physician who feels a need for further information, and for inspiration.

Texas Participation in the American Medical Association Centennial radio broadcasts has been announced for April 26. On that date, at 3 p. m., Central Standard Time, the National Broadcasting Company network will carry a half hour program on Texas medicine. This Saturday afternoon series, under the general title "Doctors—Then and Now," was begun last December, one state or region in the United States being featured each week.

Dr. Anson Jones, an active participant in both politics and the practice of medicine in Texas during its existence as a republic, and the last president of the republic, will be the leading figure in a dramatization originating in Chicago, based upon historical material supplied by Dr. P. I. Nixon, San Antonio, and Dr. Herbert Gambrell, Dallas, executive secretary of the Texas Historical Society. The last few minutes of the broadcast will originate in Dallas, where Dr. Elliott Mendenhall will speak briefly of the present status of medicine in Texas.

Members of the State Medical Association should keep in mind this radio series, which commemorates the one hundredth anniversary of the establishment of the American Medical Association, and particularly the Texas program, April 26. Physicians and many of their friends will want to listen to this broadcast, which will tell the nation's listeners about a very interesting episode in the great history of a great state, and something of the present day medical service in Texas.

Texas Senators and Representatives Listed.—For the convenience of our readers we are publishing elsewhere in this number of the JOURNAL (page 605), a list of Texas Senators and Representatives, with home addresses and by districts. The list should be particularly convenient to those of our readers who wish to address their Senators and Representatives concerning legislative matters now pending, in which the medical profession is interested. During the week, of course, the addresses of all will be "Capitol Station, Austin, Texas." Occasionally, the addresses will be at the home towns of those addressed. That matter cannot be anticipated.

It seems of vital importance to the public health and the medical profession, that our Legislators, both Senators and Representatives, be advised as to the purpose and purport of the several measures which are pending in the Legislature, and it will be a service to them if we individually advise them. There are those in the Legislature who have definitely committed themselves as against any or all of our legislative objectives, while there are those who have expressed themselves as favorable thereto, and in the same degree. They are all entitled

to our suggestions, advice, and explanations. They will not all be convinced, but a serious effort on our part will at least be a discharge of duty.

Of particular import at the present time is the bill providing for a Board of Basic Science Examiners, and a subsequent measure to provide for a new Board of Medical Examiners to cover the unlimited branch of the healing art, or school of medicine. We are not disposed to undertake a discussion of these measures here, but it is important that we remember that the Basic Science Examination is intended as a protection for for what is presumed will be a number of Medical Examining Boards, to cover the several branches of the healing art subsequently to be set up. The assurance of a non-partisan board of scientists that applicants for license to practice one of the healing arts are qualified on the basic sciences leaves these boards free to confine their activities to the art of their branch of practice, with a fair degree of protection to the public to start with. There can certainly be no discrimination, or can there hardly be any partisanship in the action of such a board. This legislation should precede all legislation pertaining to medical licensure.

The State Medical Association is very much interested, also, in revising the present outmoded and obsolete coroner's law. Something should be done about that, and done at once, in the interest of justice and the public welfare. The measure providing additional sanatoriums for the care and treatment of the tuberculous, as advocated by the Texas Tuberculosis Association, is also highly important. A movement has been launched looking to the licensing of hospitals and such institutions, based on standards essential to the protection of the public in all phases of hospital service. Indeed, participation in federal funds appropriated for assistance in extending hospital service throughout the country, under the Hill-Burton Bill, will depend upon the assurance of hospital licensing laws. The State Medical Association is likewise interested in securing appropriation for construction of a psychiatric hospital in Dallas. Establishment of the hospital has already been authorized, but no funds have been set aside for the purpose.

Our Membership for 1946 was exactly 5,041. The membership for the year 1945 was 4,614. The largest membership we have ever had until now, was 4,685, in the year 1944.

On February 1, 1946, the paid-up membership for the new year was 1,352. This number can be broken down to regular members, 1,303; honorary members, 8; intern members, 21; military members, 17; and members emeritus, 3.

On February 1 of this year, there were 2,747 members, which can be broken down as follows: regular members, 2,644; honorary members, 37; intern members, 56; military members, 7; and members emeritus, 3.

Evidently, the change in the fiscal year from the period May to May, to January to January, has hurried up the payment of dues, even though the membership year has not changed from the calendar year, which it has always been. The early payment of dues was urged in order that there might be sufficient funds from the angle of dues to avoid even a temporary deficit in some of the funds of the Association depending upon income from that source. We are grateful to those of our members who have paid early, and to those secretaries who have helped to bring about such a state of affairs.

The annual reports from county societies are due April 1. After that time all former members whose names are not on record in the office of the State Secretary as having paid dues for 1947 are definitely not members any more, and have not been members since the first of the year. Secretaries will receive blanks for their annual reports around March 1, but any secretary who has collected dues from practically all of his members can receive blanks at once by asking the State Secretary for them, and can report without further delay. This is one occasion when it will be satisfactory to all concerned to "jump the gun." It is a grand and glorious feeling when a secretary can unload his membership burden and lie down to pleasant dreams.

Medical Library Service.—Members of the State Medical Association of Texas may take justifiable pride in the library facilities available to them in their own Library. Throughout the years since the establishment of its package service some fifteen years ago, the Trustees have carried forward a policy looking to the continuous development of the Library so that its services to members of the Association might be broadened to the greatest possible extent. An example is the establishment of a collection of medical motion picture films in the Library in 1943, for both lay and professional audiences, which is rapidly becoming one of the best in the United States.

In order to acquire library knowledge and practices that might enhance the services offered by our Library, the Trustees sent one of its librarians to the Library of the

University of Texas School of Medicine, Galveston, for a short period of study during the summer of 1945, through the courtesy of Dr. Chauncey D. Leake, dean and vice-president, and, also, of Miss Elisabeth Runge, its highly accomplished librarian. While there our librarian was not only treated with every possible courtesy but was thoroughly indoctrinated in the system of library practice used.

Through a similar courtesy extended by Col. Leon L. Gardner, then Director, opportunity was given a member of our Library staff to work in and observe the operation of the Army Medical Library, Washington, D. C., from September 23 to October 9, 1946. A concise report of the outstanding facilities of the Army Medical Library, written by Mrs. Estelle Parnell, the member of our Library staff who enjoyed this privilege, appears in the Current Editorial Comment section of this number of the JOURNAL and should be read by every member of the Association. Mrs. Parnell returned not only armed with library knowledge which will be of the greatest value to Texas doctors but inspired by the teaching of Mr. Wyliss Wright, who was at that time the distinguished librarian of the Army Medical Library.

The Army Medical Library is perhaps the greatest medical library in the world. Its facilities are available to any Texas doctor, through a library. It cannot render services directly to individuals. It augments and complements the facilities of all medical libraries of the nation. This magnificent library is faced with the same catastrophic need as our own—a new, fireproof structure to house its priceless contents. Every doctor in Texas should take time out to write his Congressman and urge that prompt and immediate support be given any movement to erect a building in Washington that will make safe for this nation its greatest and most valuable treasure house of medical knowledge, which could never be replaced if lost.

Lastly, the Board of Trustees of the State Medical Association of Texas acknowledges here for its membership deep appreciation of the opportunity offered a member of our Library staff to observe and be trained in the operation of the great Army Medical Library. Through this courtesy accurate and complete information regarding the facilities it has to offer has been brought back and will be widely published to Texas physicians. Again it is urged that the article, "The Army Medical Library," beginning in the next column, be read by every member of the Association.

CURRENT EDITORIAL COMMENT*

The Army Medical Library.—If a Texas medical librarian dismisses a request for information with the apology, "I'm sorry, but we do not have that reference," the patron should not feel that the library is worthless or its staff without merit. The problem is typical throughout the country where medical files are limited. Librarians almost everywhere are forced to shake their heads for the same reason, but an antidote is available in the Army Medical Library at Washington, D. C.

A stranger to the Army Medical Library could not easily believe that this rugged red brick building houses the finest collection of medical literature in the world. Since its founding in 1836, during the administration of Andrew Jackson, with a nest egg of a mere handful of medical books and pamphlets, the Library has accumulated a vast collection of books, pamphlets, journals, portraits, broadsides, curiosa, and the like, coming by purchase and by gift from all parts of the world. In 1879 the Surgeon General reported fifty thousand books on the shelves. Nearly every year since, thousands of books and other forms of medical information have been added to the collection. Also, an incredible grouping of fifteenth, sixteenth, seventeenth, and eighteenth century medical literature has been gathered. In selecting the library's materials, recency of scientific literature is stressed, but not more so than older writings. The aim is to acquire everything published in approved fields of medicine and the allied sciences to the end that there shall be no superior to it in coverage, and it may win the distinction of being the greatest research medical library in the world.

Librarians in the field will be glad to know that much of this material is available to them and to their patrons. The purpose of this enormous grouping of medical knowledge, besides providing a fund of material for the Army medical personnel, is to supplement smaller libraries of the nation with greater medical detail and to provide answers to the rare problems in medicine. There is no line to define the extent of the value of this service. In addition to achieving for the practicing physician and the research worker a broader medical background, the librarian herself can develop the dimensions of her own perspectives and

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

bring to life dormant powers and potentialities of medical library service.

Too much stress cannot be placed upon the fact that the Army Medical Library does not seek to supplant other medical libraries, but only to supplement them. All civilian requests must be made through a local library, not necessarily medical, and material available through interlibrary loan within the state should not be requested. All requests should be typewritten double space and in duplicate. If postage to cover mailing charges is not sent with the request, the parcel is shipped express collect. Correspondence to the Library should be addressed: The Army Medical Library, 7th and Independence Streets, S. W., Washington 25, D. C.

All members of the medical profession, medical students, and medical librarians are familiar with the *Index-Catalogue,* which is a great scientific bibliography prepared by the Army Medical Library. In August of 1945 the *Current List of Medical Literature* was taken over as an official publication of the Library, and the references indexed, which has made it an invaluable help to the profession in locating references in current periodicals. This has been one of the most outstanding services which the Library has contributed to the public in recent months.

There are certain types of material that are foreign to the average medical library but which World War II has emphasized as necessary adjuncts to total equipment. Photoduplication is one of these auxiliaries. The Army Medical Library has a Photoduplication Section which is regarded primarily as an extension of its loan services. This has been a free service; a nominal charge is now under consideration. For the average practitioner, photostats are more practical in that they are clear and ready to read, but microfilm is available and is satisfactory if a "reader" is at hand.

Single articles from periodicals will be filmed. Each copy shows the name of the author and the name of the publication in which the article appears, thus giving full credit to both author and publisher. All articles requested should be numbered consecutively, and arranged alphabetically under the title of the publication. Each reference requested should include the title of the publication, volume, complete pagination and year, author's full name, and title of the article, thus:

1. American Heart Journal, 10:1-10, 1944, Jones, Arthur A., Sulfanilamide.

The Foreign Language Section will translate verbatim or abstract any article requested *from* or *into* any language except Chinese and Japanese. This service is performed for military and veterans hospitals, the armed services, and federal agencies. One month's time should be allowed for each request, but often material can be prepared the same day it is received. The translation will be sent as a microfilm, as a photostat, or as a typed article. If requested, the illustrations in the article will be photographed and sent with the translation.

Original material is loaned for a period of two weeks from the date of receipt, with the privilege of extension upon request. Transportation charges both ways are borne by the borrower.

Requests for books should show the full name of the author, title of the work, date and place of publication, and name of the publisher.

Journal requests should show the name of the journal, date of issue, volume number, pagination, author and title of the article.

Loans are made on condition that the greatest care will be taken in packing the material for return to prevent damage in transit. Among other precautions, the corners and edges of books should be well protected. Pamphlets and journals should not be rolled but sent flat, and preferably by parcel post. The borrower is expected to pay for repairing damages due to careless packing.

Material dated before 1820, theses dated before 1920, reference works, and any loose leaf material or current journals are not loaned.

The Library's greatest present need is a new building to house its more than one million volumes, because its present home is not fireproof and cannot be further expanded.

In recent years, under the leadership of Col. Leon L. Gardner, as director, and Mr. Wyliss E. Wright, as Librarian, an ambitious program for the Library was begun. Since January 1, a new Commandant, Col. Joseph H. McNinch, M. C., and a new Acting The Librarian, Mr. Scott Adams, have been mapping out and putting into operation new plans, which are eminently worthy of achievement and deserve the wholehearted support of the nation.

Like the Library of the State Medical Association of Texas, the Army Medical Library is not only a place to which one may go to read, relax, and study, but it is also a place from which material is sent to the person who cannot leave his home and his practice.

ESTELLE PARNELL,
Assistant Librarian, State Medical Association of Texas, Fort Worth, Texas.

DIAGNOSIS AND TREATMENT OF THE ANEMIAS

WILLIAM C. LEVIN, M. D.
GALVESTON, TEXAS

The anemias are all too frequently considered as primary clinical entities. I believe that the proper concept is that any anemia is secondary to some primary disease or deficiency. In recent years, there have been many new developments, both experimental and clinical, to support this idea. Before Minot and Murphy pointed out the efficacy of liver in pernicious anemia, anemias were classified as primary and secondary types, but this far-reaching discovery soon placed the macrocytic anemias into the secondary group. Since then, more and more of the so-called primary anemias have been found to be the result of some other primary cause.

This development has been aided also by more careful and exact clinical studies. Perhaps the most important of these methods is the technique used to study the bone marrow in living patients. Before the development of this technique, the marrow was rarely examined except in postmortem studies by the pathologist. Now, it is possible to study in detail the organ which produces most of the cellular elements found in the peripheral blood, and correlate any changes found in the two sites. This is helpful in gaining an understanding of the physiological defect, as well as in greatly facilitating the diagnosis of the more obscure anemias.

As stated above, any anemia encountered clinically should be approached with the concept that the anemia is a manifestation of some primary physiological defect. By no means should treatment ever be instituted before an etiological diagnosis is established, and then the therapy should be directed along lines intended to correct the physiological defect.

DIAGNOSTIC METHODS

As in the study of any problem in clinical medicine, it is important first to study an anemic patient with a careful clinical report. Nowhere is a good history more important. A careful dietary investigation is extremely significant in certain types of cases. In infants and children up to 3 years of age, iron deficiency anemia is very common.[2] In such instances, the physician must make certain whether or not the diet contains a sufficient quantity of iron. Again in pregnancy, and especially in multiple pregnancies, the same type of anemia frequently develops.[4] Recently, there have been described instances of macrocytic anemias caused directly by diets deficient in foods containing the extrinsic factor.[7] A history of chronic infection may be the clue to the entire picture. This point has been emphasized by Cartwright and others,[1] who have shown that anemias develop in chronic infections probably because of a disturbance in iron and porphyrin metabolism. It goes without saying that a history of blood loss becomes very important in the study of an anemic patient. Sometimes, however, it is difficult to elicit such a history. This is particularly true in women, most of whom have no idea of what constitutes normal or excessive menstrual flow. Of growing importance in industrial fields is a careful occupational history including any story of contact with chemical or physical agents known to be capable of producing anemias as well as other hematological dyscrasias. Closely akin to this type of history is cognizance on the part of the physician of the frequency with which certain commonly used drugs may produce anemias. The most frequent offenders are the sulfonamides,[3] although other drugs not infrequently may result in the development of anemias. Finally, the history should include a survey of the patient's family, since heredity is definitely established in most of the congenital hemolytic anemias, as well as in certain of the other types.

A thorough physical examination frequently points the way to the diagnosis in the consideration of an anemic patient. Lymphadenopathy and splenomegaly immediately suggest a hemolytic anemia or a leukemia as the etiologic background. Jaundice constantly accompanies hemolytic anemias, while leg ulcers are found only in certain cases. A careful rectal examination may elicit the presence of hemorrhoids or a neoplasm as the source of blood loss. If a neurological examination discloses the presence of combined degeneration of the cord with or without a peripheral neuropathy, a diagnosis of pernicious anemia must be entertained. A hemorrhagic diathesis as the cause of the anemia is intimated by the elicitation of purpuric manifestations during the course of the physical examination. In the female it is the absolute responsibility of the examiner to do a thorough pelvic examination, since the most frequent cause of iron deficiency anemias in the female is pelvic disease which results in chronic loss of blood.

In the great majority of instances a careful clinical survey as outlined above together with ordinary routine laboratory studies is sufficient to arrive at the cause of the anemia. A critical examination of the red count and hemoglobin is frequently sufficient to

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From the Department of Internal Medicine and the Hematology Clinic, University of Texas School of Medicine.

classify the anemia. The leukocyte count and differential may demonstrate the presence of a leukopenia or a specific type of leukocytosis and thus serve as a further guide to the diagnosis. Urinalysis sometimes proves the anemia to be caused by blood loss from the urinary tract or points out the site of an infection. Examination of the blood serologically is very significant, since either secondary or active tertiary syphilis not infrequently produces an anemia in the infected patient. Perhaps one of the most neglected, yet one of the most useful routine laboratory examinations is a careful study of the stool. Many pertinent data may be thus revealed. Hookworm infestation is still a frequent cause of anemia in Texas. The presence of gross or occult blood in the stool will establish the gastro-intestinal tract as the site of blood loss. Absence of free hydrochloric acid in the gastric secretions is of utmost importance in the search for the cause of an anemia, since achlorhydria is a constant accompaniment of Addisonian pernicious anemia and is also frequently found in certain of the iron deficiency anemias.

When the above measures fail to disclose the cause of an anemia, there are certain special laboratory examinations which are indicated. In order to classify the anemia according to laboratory tests, it is necessary to have simultaneous recordings of the erythrocyte count, the hemoglobin content, and a hematocrit examination. With these data it is then possible to calculate the mean corpuscular volume, the mean corpuscular hemoglobin and mean corpuscular hemoglobin concentration according to the following formulae:

1. Mean corpuscular volume $= \left\{\frac{\text{Vol. packed cells per 1,000 cc. blood}}{\text{Erythrocyte count in millions/cu. mm.}}\right.$

(Normal—80 to 94 cubic microns.)

2. Mean corpuscular hemoglobin $= \left\{\frac{\text{Hemoglobin in Gm. per 1,000 cc. blood}}{\text{Erythrocyte count in millions/cu. mm.}}\right.$

(Normal—27 to 31 micro-micrograms.)

3. Mean corpuscular hemoglobin concentration $= \left\{\frac{\text{Vol. packed cells per 100 cc. blood}}{\text{Hemoglobin in Gm. per 100 cc. blood}}\right.$

(Normal—33 to 38 per cent.)

The anemia may then be classified as macrocytic, normocytic, or microcytic and as normochromic or hypochromic. As will be discussed later, this type of classification is a great aid in arriving at the clinical diagnosis.

Estimation of platelet and reticulocyte counts is frequently indicated. If the platelet count is significantly lowered, then two possibilities must be considered. First, if the platelet count is sufficiently decreased, a bleeding tendency will develop and this may account for the anemia. The second important consideration of a subnormal platelet count is that the same process causing the thrombocytopenia has produced the anemia. This situation may be present as a myelophthisic process in which all normal marrow constituents are replaced by leukemic or neoplastic cells, or as a hypoplastic state in which all marrow components are markedly diminished because of the inability of the marrow to function properly. If the reticulocyte count is significantly increased in association with the anemia, the marrow may be considered to be responding adequately to the demands placed upon it. On the other hand, a low reticulocyte count is suggestive of a hypoplastic marrow or of a maturation arrest of the erythroid elements such as occur in the macrocytic anemias. An icterus index and other studies for the detection and classification of jaundice are of great consequence in the diagnosis of hemolytic anemias. In the presence of a hemolytic anemia, the differentiation between the congenital and acquired types can frequently be accomplished if the resistance of the erythrocytes to hypotonic saline solution is studied. In the majority of instances, the congenital type will show increased erythrocyte fragility, while the acquired type of hemolytic jaundice is characterized by a normal erythrocyte fragility test.

In the face of any evidence of a tendency to bleed easily, a complete survey of the clotting mechanism should be carried out. This series of studies would include the prothrombin time, coagulation time, bleeding time, clot retraction, and capillary wall fragility. The defect in coagulation can be recognized in most instances from a careful evaluation of these data. This in turn may disclose the cause of the anemia and point the way to the correction of the defect, if possible.

Perhaps the most helpful of all hematological techniques in diagnosing obscure anemias is an expert study of the marrow. This should be attempted only by those well-trained in such procedures; otherwise, the value of the examination is usually entirely wasted. With such an investigation, the anatomical and physiological defects underlying the anemia can frequently be recognized. For example, myelophthisic lesions may cause severe anemias. These can usually be identified in the marrow as leukemias, myeloma, or metastases from malignancies. The presence of a maturation arrest of the erythroid series can easily be recognized by one experienced in this method. Hypoplastic anemias, too, have very characteristic marrow pictures and are easily recognized.

Any special clinical studies that seem to be indicated should be utilized in anemias of

hidden origin. Some of these to be kept in mind are roentgen and proctoscopic examinations, and biopsy studies of enlarged lymph nodes and masses. There is one final diagnostic procedure that must be mentioned, but only to be emphasized that it should be used only as a last resort. That method is therapeutic trial. In a very occasional case, the type and cause of the anemia cannot be defined, and in such a case it is permissible to utilize one and only one of the specific anti-anemia regimes. Never should such a patient be given both liver and iron, but only one of the specific anti-anemia drugs, so that the result can be more intelligently scrutinized. In such instances, not only the clinical, but also the hematological response must be followed daily in order to evaluate the results and establish the diagnosis.

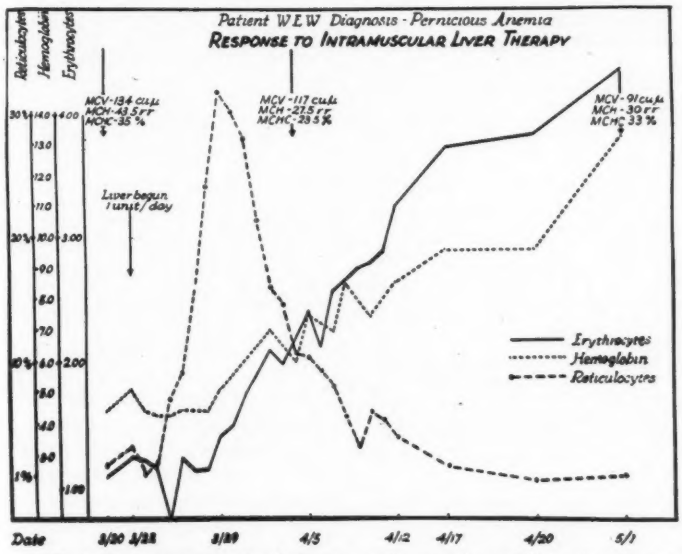

FIG. 1. Proper response of reticulocytes, erythrocytes, hemoglobin, and erythrocyte indices to proper liver therapy.

The primary method of classification of anemias used in our clinic is the laboratory classification which groups the anemias into three types: macrocytic, normocytic, and hypochromic. This grouping is for the sake of convenience, since the clinical types of anemias have been found to arrange themselves into this scheme. The macrocytic anemias are Addisonian pernicious anemia, pernicious anemia of pregnancy, anemia caused by extrinsic factor deficiency in the diet, and anemia associated with chronic liver disease, sprue, gastric carcinoma, and a miscellaneous group of other diseases. The normocytic anemias include those caused by chronic infections, hypoplastic anemias, myelophthisic anemias, hemolytic anemias, anemia from acute loss of blood, and finally a condition characterized by a decreased erythrocyte count and hemoglobin content, which is not a true anemia but is due instead to the hemodilution found in hydremia. The final group is the hypochromic anemias which are comprised of the anemias caused by chronic blood loss and by an iron deficient diet. The latter applies only to infants and adolescents and to females and especially those who have experienced multiple pregnancies or who have had menorrhagia. It can be categorically stated that the presence of a hypochromic anemia in an adult male means that there has been blood loss.

TREATMENT

As stated in the onset, the treatment of anemias should be directed along lines intended to correct the physiological defect. There are, however, certain general measures to be followed which apply to all groups. If the cause can be determined, then that cause should be removed if at all possible. For instance, dietary deficiencies should be corrected and bleeding sources should be removed. In any type of anemia, an adequate and nutritious diet is of the utmost value. Depending upon the severity of the anemia, a proper amount of rest is indicated. A valuable aid in the treatment of anemias is transfusion of whole blood. As will be mentioned later, it is the only method now available for treating certain types of anemias. In more general terms, however, transfusions serve two worth-while purposes. In the first place, transfusions may be life-saving procedures in certain types of severe anemias, most commonly those from acute blood loss. Second, in the event that the grade of an anemia is severe, yet the etiological diagnosis is obscure, a transfusion of whole blood will tide the patient over the critical period, yet it will confuse the diagnostic problem less than any other method available. The final and most important consideration of the treatment of anemias is specific therapy.

It cannot be emphasized too strongly to refrain from instituting treatment until a definite diagnosis has been made. An example of such an error of judgment is exemplified by the case reported here. In this

instance, the patient was subjected to a protracted painful and expensive regime of liver therapy on the basis of a diagnosis of pernicious anemia being made on very poor evidence. An examination of the sternal marrow readily revealed the diagnosis of multiple myeloma.

CASE REPORT

The patient was a 74 year old white woman who entered the John Sealy Hospital with a chief complaint of weakness. The illness began six months previously, the symptoms being weakness, dyspnea, ankle edema, and attacks of nausea and vomiting. She had received a diagnosis at the onset of pernicious anemia. Liver extract was administered in adequate amounts but in spite of this, she continued on a downhill course. Physical examination revealed only marked pallor and severe prostration. The significant laboratory data were as follows: red blood count, 1,830,000; hemoglobin, 5.1 Gms.; mean corpuscular volume, 109 cubic microns; mean corpuscular hemoglobin, 27.8 micro-micrograms; mean corpuscular hemoglobin concentration, 25.5 per cent; platelets, 106,000. Gastric analysis revealed free hydrochloric acid to be present. Bone marrow examination revealed that the normal marrow elements were crowded out by immature plasma cells and the diagnosis of multiple myeloma was thus established.

The specific treatment of macrocytic anemias and Addisonian pernicious anemia in particular is now well established. The patient will almost invariably respond beautifully to adequate administration of potent liver extract. A patient with pernicious anemia in relapse is best started off with 10 to 15 units of liver extract intramuscularly daily for about ten days. It may then be decreased to 10 units twice weekly and finally to 10 units every week or even 40 units once a month. Actually, such a patient needs only 1 unit a day to make a satisfactory response, but it is well to replenish the reservoir of erythrocyte maturation factor, which is always depleted during a relapse of pernicious anemia. Figure 1 graphically demonstrates the proper type of response of reticulocytes, erythrocytes, hemoglobin, and erythrocyte indices to proper liver therapy. It will be seen that there was a sudden and short-lived reticulocytosis of marked degree on about the seventh day after specific therapy was instituted. Immediately following this reticulocyte peak, the hemoglobin and red cells began to rise rapidly and had reached normal levels in about six weeks. At the end of this period, the erythrocyte indices had returned to normal.

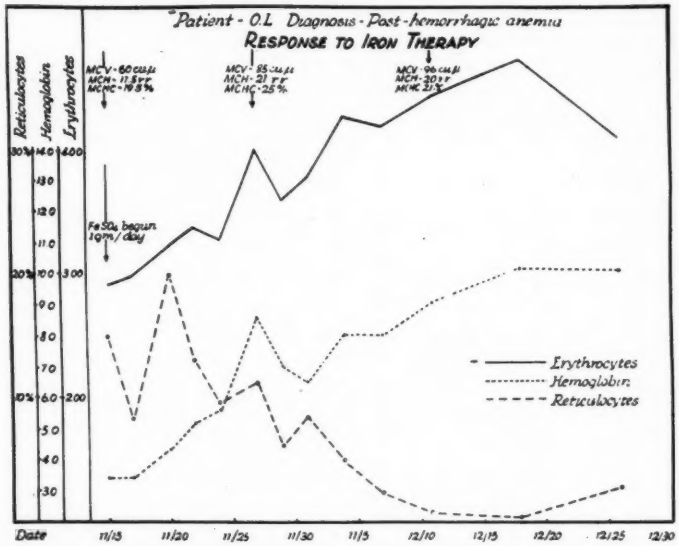

FIG. 2. Hematological response to be expected in a hypochromic anemia treated with iron.

A word of caution should be injected at this point. Not every patient with pernicious anemia will respond so favorably. There are individual variations, and, in addition, the presence of infection or severe neurological complications frequently demands administration of larger doses of liver extract. An extremely important point is the absolute necessity for permanence of treatment; otherwise relapses may be expected within a few months. There is no indication to use iron in the treatment of macrocytic anemias, unless definite evidence of an associated iron deficiency is present.

A fascinating new material has recently been introduced which doubtless will revolutionize the treatment of macrocytic anemias and perhaps other hematological disorders. This substance is folic acid or the L. casei factor. A recent report has described thoroughly satisfactory responses of Addisonian pernicious anemia, sprue, and pernicious anemia of pregnancy to folic acid, which was administered orally, rectally, and parenterally with equally good results.[8] Folic acid is not yet commercially available, but by the time this paper goes to press, it will almost surely be readily obtainable.

Before specific therapy is instituted in hypochromic anemias, every effort should be exercised toward detecting any source of blood loss, so that the bleeding may be stopped if possible. Iron salts are specific to re-

plenish the body iron. It has been shown that in human beings, ferrous salts are most readily absorbed.[6] We believe, therefore, that ferrous sulfate given in a dosage of 1 Gm. a day, divided into three doses, is the most effective means of restoring the reservoir of iron. Ferrous sulfate should not be administered in enteric coated tablets, since it is necessary for the hydrochloric acid of the stomach to aid in its absorption. There is no need to administer liver extract in any form to a patient with an iron deficiency anemia. Excellent evidence is also available to show that the vitamin B complex aids in no way the treatment of hypochromic anemias with iron.[5] Figure 2 is an example of the type of hematological response to be expected in a hypochromic anemia treated with iron. There is evidence of a moderate reticulocytosis, soon followed by a rise in the erythrocytes and hemoglobin. The response was not completely satisfactory in this patient because during the course of therapy she had a hemorrhage from esophageal varices.

No specific treatment exists at the present for the treatment of normochromic anemias. In this group more than anywhere else it is of greatest importance to be aware of the underlying cause. When the cause is removed, the anemia may be expected to recede. Unfortunately, many anemias of this type are caused by myelophthisic processes or irreversible toxemias. Blood transfusions are of temporary benefit. Liver and iron have no place in the treatment of the normocytic anemias.

In the initiation of treatment of any anemia it is well to follow the subsequent course closely with reticulocyte counts, erythrocyte counts, hemoglobin estimations, and hematocrit studies. These data will then serve three purposes: the diagnosis will be confirmed, adequacy of treatment will be established, and potency of the preparation can be measured.

SUMMARY AND CONCLUSIONS

Anemias are merely symptoms of other primary diseases or deficiencies.

Diagnosis of the anemias depends upon a thorough history, a complete physical examination, and in most instances only routine laboratory studies. In obscure anemias, specialized laboratory work is indicated to aid in the diagnosis.

Treatment of an anemia should be undertaken only after the observer has acquired a thorough understanding of the physiological defect present. Specific therapy should then be instituted. Indiscriminate use of so-called combination therapy is deplored.

Adequacy of therapy may be judged by certain follow-up studies as described in the body of the paper.

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ABSTRACT OF DISCUSSION

Dr. Victor E. Schulze, San Angelo: Erythrocytes, lacking the power of reproduction and regeneration, are subject to change in number and structure only as the result of disease of some other organ. "Anemia," then, is only a symptom which challenges search for the cause. Although this search is facilitated by consideration of the relative size of the cell and its hemoglobin content, the descriptive terms "microcytic" and "macrocytic" or "hypochromic" and "hyperchromic" do not complete the diagnosis. Information other than the quantity of hemoglobin and the number and size of erythrocytes and their respective relations to determine whether the anemia is caused by decreased production, excessive destruction, or loss of blood is of great value in arriving at the etiologic diagnosis. However, since the causes of anemia are numerous and often remote, the study of the patient himself often proves the most fruitful, and the clinical approach to anemia should consequently be in the reverse order in which it is here considered, with the patient first and the blood last, as Dr. Levin has so admirably elucidated.

NAVY NEEDS MEDICAL OFFICERS

The Navy Department has announced that civilian physicians are needed as commissioned officers in the Medical Corps of the Navy or Naval Reserve for active or inactive duty. Long-term programs for training in the recognized specialties as well as in certain Naval medical specialties have been established for medical officers, and are offered as an inducement to the individual physician who wishes to become a specialist without the financial, assignment, and other complications which attend the same effort in civil life. Physicians who are interested may secure further information from the Office of Naval Officer Procurement, Building No. 11, Naval Air Station, Dallas 2, Texas.

"DR. GRAHAM AND FAMILY" BROADCAST

The running story of the life of a general practitioner in a medium sized typical American community is being portrayed in a weekly radio broadcast sponsored by the American Medical Association and the Mutual Broadcasting System. "Dr. Graham and Family" is presented each Monday night at 9:30, Central Standard Time. Begun February 3, the series will continue for twenty-six weeks.

PENICILLIN THERAPY IN CONGENITAL SYPHILIS

DOROTHY B. WYVELL, M. D.
DALLAS, TEXAS

There are 136 reported cases of congenital syphilis treated with penicillin.[1, 3, 5, 7, 10] Of those which have been adequately followed, 38 (28 per cent) have become seronegative, 25 (18 per cent) have shown a significant drop in antibody titer, 7 (5 per cent) have had a serological and/or clinical relapse,[7, 10] and 10 (7 per cent) have died.[3, 7] The deaths were not all attributed to syphilis or Herxheimer reactions. The following is an additional report of 40 syphilitic children who received sodium penicillin. Except where indicated (2 cases of congenital syphilis in older children and 3 cases of central nervous system syphilis) no other specific therapy was used, but all received indicated supportive pediatric care.

ACQUIRED SYPHILIS IN CHILDREN

Three children with acquired syphilis were treated five months, ten days, and six months, respectively, after the onset of symptoms. In all 3 children the clinical evidence of disease disappeared within six days after therapy was started. Except for a transient spike of fever to 102 F. in 2 cases, there was no reaction. In 2 children the blood Wassermann tests became negative five months and seven months after treatment. The third child, who had symptoms of disease antedating his admission by at least six months, showed a small amount of reagin still present six months after treatment. The response of these children to penicillin was similar to that of adults with early acquired syphilis.

CONGENITAL SYPHILIS IN THE NEONATAL PERIOD

Twenty-two infants from 2 weeks to 8 months of age were treated with 500,000 to 2,000,000 units of penicillin. Of these children 21 had a history of symptoms of syphilis, 20 had clinical evidence of syphilis, 20 had roentgen evidence of bone involvement, and 14 gave positive spinal fluid Wassermann reactions. The spinal fluid of 1 child (case 11205, table 2) showed signs of active disease. Skin lesions, athrepsia, bleeding tendencies, bone tenderness, and pseudoparalyses improved markedly within three days after therapy was started. Snuffles, adenopathy, and splenomegaly improved much more slowly. Most of the changes in the long bones cleared within eight months after therapy.

Herxheimer reactions were most pronounced in this group. Two children developed marked urticaria, high fever, mild shock, and severe dyspnea about six hours after treatment was started. Each case responded rapidly to oxygen, adrenalin, and a temporary reduction of dosage. Twelve children had a transient spike in temperature of about 103 F. between nine and twelve hours after penicillin was started. One of these children had a temperature rise to

From the Department of Pediatrics, Southwestern Medical College.
Read before the Section on Pediatrics, State Medical Association of Texas, Galveston, May 8, 1946.

TABLE 1.—*Acquired Syphilis.*

Age Race Case No.	History	Findings	Serology	Total Penicillin U/Dose	Reactions	Follow Up
9 yr.	Mother—Serology neg. Untreated	Chancre on vulva with pos. dark field	W. pos. E. pos.	600,000	None	48 hrs. Chancre, vaginitis and rash gone
	Sister—8 yrs. acquired lues 1 yr. ago. Had rash and condyloma	Inguinal adenopathy G. C. vaginitis	Sp. fl. neg.	40,000 Q. 6 H.		1 mo. W. 32 E. pos. 2 mo. W. neg. E. dbt. 5 mo. W. neg. E. neg. 20 mo. W. neg. E. neg.
Col.	Patient—neg. Wass. 1 yr. ago. 5 mo. ago developed chancre, rash and pos. Wass.					
FF795						
6 yr.	Mother—Serology neg. Untreated	Inguinal adenopathy Penile chancre with pos. dark field	W. 64 E. 4	1 mil.	Spike after 3rd. shot	24 hr. dark field neg.
	Patient—"Kernels" in groin 9 days.		Sp. fl. neg.	5,000 Q. 3 H.		6 days chancre gone
Col.	1 wk. before admission Wass. pos. Eagle dbt.					7 mo. W. neg. E. dbt. Exam. neg.
KK526						
4 yr.	Mother—Serology neg. Untreated	Mental retardation Inguinal adenopathy, marked Penile chancre with neg. dark field	W. 32 E. pos.	1 mil.	Spike on 7th. day	4 days penile lesion gone 3 mo. W. 4 E. dbt. 4 mo. W. 8 E. 2 5 mo. W. 8 E. 1 6 mo. W. 4 E. dbt. Exam. neg.
	Patient—Mentally retarded. Known masturbator 6 mo. ago stick removed from penis.		Sp. fl. neg.	10,000 Q. 3 H.		
Col.	5 mo. ago dysuria penile swelling. W. dbt. E. dbt. 4 mo. ago W. pos. E. pos. penile lesion unresponsive to supportive therapy					
II364						

GGE General glandular enlargement.
W Eagle Wassermann.
E Eagle flocculation test.
W 128 Wassermann 4 plus in a 1:128 dilution and less than 4 plus in a 1:256 dilution.
W 128+ Wassermann 4 plus in a 1:128 dilution. No further dilution carried out.
W dbt Wassermann less than 4 plus in a 1:1 dilution.
W pos Wassermann 4 plus in a 1:2 dilution, not titrated quantitatively.
f. b. Finger breadths.

TABLE 2.—*Congenital Syphilis—The Neonatal Period.*

Age Race Case No.	Mother's History	Patient's History	Findings	Serology	Total Penicillin U/Dose	Reactions	Follow Up
4 mo. White HH63	Wass. neg. 1 mo. before conception Wass. pos. at birth No symptoms	Cold 3 mo. Frequent epistaxis Weeping rash for 2 wks.	Rhagades Rash Leukoplakia Spleen 2 f. b. Liver 4 f. b. Bones pos.	D. F. neg. W. 128 Sp. fl. pos.	½ mil. 5,000 Q. 3 H.	Spike after 2nd shot	1 mo. W. 4 E. 2 f. b. Spleen 2 f. b. Epitrochlear 3 mo. W. neg. E. 1 Liver 4 f. b. baby small 4 mo. W. 8 E. 16 12 mo. W. 8 E. 16 Spinal pos. bones healing 16 mo. W. 16+ E. 16 Readmitted for more penicillin
2 mo. Col. II24	Chancre 2nd mo. for 3 mo. At 5 mo. Penicillin X. 4 days	Exfoliation 4-8 days of life Cold since 2 wks. old Rash 3 wks. Paralysis 1 wk.	Marked Anemia Paralysis Rash Snuffles Liver neg. Spleen neg. Bones pos. fractures	W. 160 E. 32 Sp. fl. pos.	½ mil. 5,000 Q. 3 H.	Spike after 2nd shot	1 mo. W. 160 E. 2 Bald bones better. Spleen 1 f. b. 2 mo. W. 40 E. 20 3 mo. W. 1 E. 1 7 mo. W. neg. E. dbt. spine neg. bones neg. Exam. neg. 10 mo. W. neg. E. dbt.
8 mo. White II205	Asymptomatic Untreated	Large head 5 mo. Vomiting 3 mo. Fever 5 days Rt. side paralysis 2 days Convulsions 1 day	Hydrocephalus Bulging fontanelle Rt. hemiplegia Stiff neck Spleen 2 f. b. Liver 2 f. b. Bones pos.	W. 100 Sp. fl. very pos. 250 cells 75% lymphs	1 mil. 10,000 Q. 3 H.	Sl. spike after 2nd shot Urticaria	3 mo. W. 4 E. 2 bones neg. Spleen 4 f. b. Liver 3 f. b. sl. G. G. E. Rt. Side weak. Retarded. 6 mo. W. 1 E. dbt. Spinal neg. Spleen 2 f. b. Sl. weakness (rt.) Less retarded. 9 mo. W. 2 E. 2 Head normal, development better.
12 days White HH684	15 years old Rx for 14 mo. prior to delivery	Transferred from nursery Cyanosis from birth Cont. O_2 necessary	Anemia Cyanosis Lungs clear Later developed bronchiolitis Bones pos.	W. 128+ E. 16 Sp. fl. very pos.	1½ mil. 20,000 Q. 3 H.	Spike after 2nd shot Urticaria after 1st and 2nd shot Increased dyspnea Dose dropped to 1,000 & worked up	2 mo. Spinal neg. Exam. neg. 3 mo. W. 1 E. neg. 4 mo. W. 1 E. neg. 6, 7, 11 mo. W. neg. E. neg. 13 mo. W. neg. E. neg. Spinal neg. Exam. neg.
4 mo. White KK783	Asymptomatic Untreated 9 yr. sibling neg.	Cold since birth worse for 3 days Paralysis 1 mo.	Skin thin Nails thick and curved Bloody snuffles Paralysis Spleen 4 f. b. Liver 3 f. b. Bones pos.	W. 128+ E. 32 Sp. fl. pos.	1 mil. 1st adm. 10,000 1 mil. 2nd adm. 10,000 Q. 3 H.	Fever on admission which dropped to normal 2nd adm. none	1 mo. W. 160 E. 20 Bones pos. snuffles Liver 3 f. b. Spleen 2 f. b. 2 mo. W. 80 E. 10 Spinal neg. snuffles, Spleen and liver same. Additional 1,000,000 U. given. 3 mo. W. 16 E. 8 bones better snuffles Spleen 1 f. b. 5 mo. W. 2+ E. dbt. spinal neg. spleen 1 f. b. Development normal. 6 mo. W. neg. E. dbt. Spleen 1 f. b.
3 mo. Col. II298	Asymptomatic Untreated	8 mo. premature Hospitalized from birth Athrepsia Diarrhea	Weakness Anemia G. G. E. Bones pos. with multiple pathological fractures	Pos. Sp. fl. pos.	½ mil. 5,000 Q. 3 H.	Spike after 2nd shot	2 mo. W. neg. bones healing 3 mo. Spinal neg. 6 mo. W. neg. E. neg. bones healing, Spinal neg.
2 mo. White KK765	Rash at 7 mo. when pregnant with patient	Cold since 3 days old Lues diagnosed at 2 wks.	G. G. E. Snuffles Bones pos.	W. 128+ E. 8 Sp. fl. pos.	1 mil. 10,000 Q. 3 H.	Low grade fever before penicillin; became normal after penicillin	1 mo. W. 128 E. 8 Spinal neg. G. G. E. 2 mo. W. 32 E. 4 Bones neg. No G. G. E. 3 mo. W. 16 E. 1 Exam. neg. 4 mo. W. 1 E. dbt. Exam. neg.
5 mo. Col. II969	Rx x 9 mo. 9 yrs. ago Rx during last 4 mo. of preg. 6 neg. Siblings	No symptoms Routine check	Exam. neg. Bones pos.	W. 256+ E. 2 Sp. fl. neg.	½ mil. 10,000 Q. 3 H.	None	3 mo. W. 8 E. 1 Bones neg. Exam. neg.
6 wk. Col. II461	Rx irregularly during last trimester	Cold for 1 mo.	Snuffles Exfoliation of palms	W. 64 E. 8 Sp. fl. neg.	½ mil. 5,000 Q. 3 H.	None	5 mo. W. neg. E. dbt. Bones neg. 8 mo. W. neg. E. neg. Exam. neg.
7 wk. Col. HH939	Asymptomatic 1 premature child Untreated	Cold 10 days Paralyzed 10 days	Snuffles Paralysis Bones pos.	W. 400 E. 32 Sp. fl. pos.	1 mil. 5,000 Q. 3 H.	Low spike after 2nd shot	1 mo. W. 4 E. 2 Bones better Sl. G. G. E. 2 mo. W. neg. E. 1 Bones better 8 mo. W. neg. E. neg. Spinal neg. Bones better 11 mo. W. neg. E. neg. Bones normal Exam. neg.
3 mo. Col. GG993	Irregular Rx previously No Rx with this pregnancy 1 Sibling 14 mo. pos.	Mild continuous epistaxis 1 week Pain on movement 1 wk.	Tender bones Bloody snuffles Spleen 5 f. b. Liver 4 f. b. Anemia Bones pos.	W. 256+ Sp. fl. pos.	½ mil. 5,000 Q. 3 H.	None	1 mo. W. 256+ E. 4 bones same, snuffles Spleen 5 f. b. Liver 4 f. b. 2 mo. W. 16 E. dbt. bones better 14 mo. W. neg. E. neg. Spinal neg. Exam. neg.
3 mo. Col. HH279	Chancre & Rash 4 yrs. ago Took 10 shots at that time	Paralysis 1 wk. with swelling of wrists	G. G. E. Snuffles Paralysis Spleen 4 f. b. Bones pos.	W. 128 Sp. fl. pos	½ mil. 5,000 Q. 3 H.	Spike after 2nd shot	2 mo. W. 32 E. 8 4 mo. W. 8 E. dbt. 6 mo. W. 1 E. neg. Spinal neg. 8 mo. W. dbt. E. neg. exam. neg.
3½ mo. Col. HH282	Asymptomatic Untreated	Cold 2 wks. Rupture since birth	G. G. E. Snuffles Liver 4 f. b. Spleen 4 f. b. Inguinal hernia Bones pos.	W. 128 E. 128 Sp. fl. neg.	½ mil. 5,000 Q. 3 H.	None	1 mo. W. 64 E. 8 Spleen 5 f. b. Liver 4 f. b. G. G. E. 11 mo. W. neg. E. dbt.

(Table 2 continued on next page)

TABLE 2.—*(Continued)*

Age Race Case No.	Mother's History	Patient's History	Findings	Serology	Total Penicillin U/Dose	Reactions	Follow Up
2 mo. Col. II654	Few shots 2 yrs. ago	Rash at 2 wks. lasting 1 wk. Paralysis 2 wks.	Spleen 3 f. b. Dactylitis Pathological fractures	W. 16 E. 1	½ mil. 5,000 Q. 3 H.	Spike after 2nd shot	1 mo. W. 4 E. dbt., G. G. E., exfoliation, Dactylitis 2 mo. W. dbt. E. dbt. bones better, sl. G. G. E. 8 mo. W. dbt. E. dbt. bones well 9 mo. W. neg. E. dbt.
7 mo. Col. GG844	Asymptomatic Untreated	Cold since birth Hospitalization advised at 2 mo.	G. G. E. Sl. hydrocephalus Spleen 1 f. b. Snuffles Bones pos.	W. 128 Sp. fl. neg.	½ mil. 5,000 Q. 3 H.	None	6 mo. W. 4 E. 4 bones healing. Slight retardation.
2 mo. Mex. KK377	Secondary lues 9 yrs. ago Rx 7 mo.—9 mo. 10 yrs. ago had 2 miscarriages	Cold since 2 wks. old Not gaining	Snuffles Anemia Exfoliation Bones neg.	W. 128+ E. 64 Sp. fl. pos.	1 mil. 5,000 Q. 3 H.	Spike after 2nd shot Dose reduced	5 mo. W. neg. E. dbt.
4 mo. White FF791	Rx 2 mo. 1 yr. ago Wass. pos. at delivery	Rash 3 wks. Exfoliation 3 wks. Cough 10 days Fever 10 days Vomiting 3 days	Rash Exfoliation Snuffles Enl. liver Bones pos.	W. 256+	⅛ mil. 3,000 Q. 3 H.	Fever 4th, 5th, 6th day	
1 mo. Col. HH241	Asymptomatic Untreated	Cold all his life Tender legs 1 week Sores in mouth 2 wks.	Tender bones Snuffles Rhagades Spleen 1 f. b. Liver 2 f. b. G. G. E. Bones pos.	W. pos. Kl. pos. Ka. pos. M. pos. Sp. fl. pos	200,000 U. 5,000 Q. 3 H.	Spike after 2nd shot	1 mo. W. pos. E. pos. Bones pos. 4 mo. W. 2 E. dbt. Bones better 9 mo. W. neg. E. neg.
6 wk. Col. KK740	Asymptomatic Untreated	Umbilicus draining since birth	Snuffles Omphalitis G. G. E. Spleen to umbilicus Large liver Bones pos.	W. 128+ E. 8 Sp. fl. neg.	1 mil. 10,000 Q. 3 H.	None	6 mo. W. neg. E. neg.
6 wk. Col. HH834	Rx 1 mo. 8th mo. of preg.	Swelling of hands and feet for 2 wks. Rash for 1 month	Edema of hands and feet G. G. E. Liver 5 f. b. Exfoliation Rash of face Bones pos.	W. 400 E. 32 Sp. fl. pos.	1 mil. 10,000 Q. 3 H.	Spike after 2nd shot	
4 mo. Col. LL623	Wass. neg. at 7 mo. Chancre when baby was 3½ mo. old.	Rash at 6 wks. for 1 week Pale	Anemia Bones very pos.	W. 128 E. 32	2 mil. 20,000 Q. 3 H.	None	1 mo. W. 32 E. 8 Snuffles
2 mo. Col. LL856	Asymptomatic Untreated	Rupture since birth Cold for 2 days Rash 3 wks.	Rash Ing. hernia Exfoliation Anemia Snuffles Bone tenderness Liver 3 f. b. Spleen 4 f. b. Bones pos.	W. 64 E. 16 Sp. fl. pos.	3 mil. 20,000 Q. 3 H.	Spike to 105 Dose dropped to 2,000 and then increased to 20,000	2 wk. W. 32 E. 8 1 mo. W. 32 E. 4 Bones same, snuffles Spleen 4 f. b. liver 3 f. b.

GGE General glandular enlargement.
W Eagle Wassermann.
E Eagle flocculation test.
W 128 Wassermann 4 plus in a 1:128 dilution and less than 4 plus in a 1:256 dilution.
W 128+ Wassermann 4 plus in a 1:128 dilution. No further dilution carried out.
W dbt Wassermann less than 4 plus in a 1:1 dilution.
W pos Wassermann 4 plus in a 1:2 dilution, not titrated quantitatively.
f. b. Finger breadths.

105.4 F. accompanied by moderate dyspnea and slight liver tenderness. The dosage was immediately reduced but there is no evidence that reduced dosage affects the severity or duration of the reaction. In this case, the temperature returned to normal and the dyspnea disappeared within eight hours; the liver tenderness subsided within twenty-four hours. Two children, who were exhibiting a constant temperature of about 101 F. before penicillin was started, had an abrupt drop to normal after therapy was begun. One child developed a spiking fever of about 103 F. on the fourth, fifth, and sixth days with no discernible cause. The temperature returned to normal without reduction of dosage.

Results of treatment in this group are encouraging. Of those who have been followed, 7 have become seronegative within one to six months after therapy and 8 have shown a marked reduction in the titer of reagin. Two children were readmitted for a second course of penicillin, 1 who failed to show continued clinical improvement two months after therapy, and 1 who had become clinically negative but who had a positive serologic picture, a positive spinal fluid, and pathologic changes in the long bones twelve months after therapy.

CONGENITAL SYPHILIS IN OLDER CHILDREN

Six children with marked clinical signs of syphilis, varying in age from 2 to 13 years, were given from 300,000 to 2,000,000 units of penicillin. The condyloma and Clutton's joints cleared rapidly although 1 child developed Clutton's joints while under treatment. All 3 patients with interstitial keratitis improved slowly. The 1 case of peri-

TABLE 3.—*Congenital Syphilis—The Older Child.*

Age Race Case No.	Family History	Patient's History	Findings	Serology	Total Penicillin U/Dose	Reactions	Follow Up
7 yr. Col. LL145	Father—chancre 8 yrs. ago Mother—"neg." Wass. Untreated Sibling 1½ yrs. Wass. neg.	Exfoliation for 1 wk. after birth Leg paralyzed for 3 mo. beginning at 3 mo. of age Left eye red 1 mo. Photophobia 2 wk. Right eye red 1 wk.	G. G. E. particularly Epitrochlears Moderate interstitial Keratitis no ulcers Joints normal Sed. rate 32 m. m. 1 hr.	W. pos. E. pos. Sp. fl. neg.	2 mil. 20,000 Q. 3 H.	Spike after 2nd shot	2 wk. Less conj. Rt. knee swollen 1 mo. W. 32 E. 4 Eyes better Knee more swollen 1 mil. u. Penicillin—Knee normal in 5 days 4 mo. W. 4 E. 8 Eyes better Knee normal Imp. of ophthalmologist Improvement no greater than with other types of therapy
9 yr. Col. HH818	Unreliable Mother dead Untreated	Retarded since birth Rash at 1 yr. Painless swelling both knees 3 mo. Photophobia 1 mo. Unilateral conjunctivitis 1 mo.	Mental retardation Clutton's joints Left interstitial Keratitis Deafness Hutchinson's teeth	W. pos. E. pos. Sp. fl. neg.	1 mil. 10,000 Q. 3 H.	None	1 mo. W. 32 E. 16 Keratitis same, Knees better 2 mo. W. 32 E. 16 6 mo. W. 8 E. dbt. 8 mo. W. 8 E. 2 Eyes almost well Knees normal Mentality improved
13 yr. Col. KK665	Unreliable Sibling 12 l. & w. 2 siblings died in infancy Mother dead	Unreliable 3 mo. ago intermittent urticaria with fever for 3 wk. 2 mo. ago swelling of one elbow & both knees 1 mo. ago—1 mil. u. Penicillin 3 wk. ago photophobia & conjunctivitis	Mental retardation G. G. E. Clutton's joints Interstitial Keratitis Hutchinson's teeth Sed. rate 117 m. m. —1 hr.	W. 4 E. 16 Sp. fl. neg.		None	Knees & eyes improved during hospitalization
13 yr. White GG693	Preg. 5 mo. Macerated fetus Preg. 3 mo. Miscarriage Preg. patient Mother died	Since birth—abd. pain & distention 1-8 mo. pain on movement Since 8½ mo. several jaundice attacks At 5 yr. temporary unilateral blindness. Athrepsia all her life Dyspnea 4 yrs. Swollen painful rt. knee 1 yr. Pain in lt. knee and wrist 5 da.	Thin, chronically ill Enl. superficial veins of trunk Hutchinson's teeth. Red tongue Spleen 21c.m. Liver 6c.m. Ascites. Edema legs & thighs Clutton's joints Basal rales, Heart normal Sed. rate 116 m. m. 1 hr.	W. pos. E. pos. Sp. fl. pos.	2 mil. 20,000 Q. 3 H.	Irregular fever 101 dropped to normal after 2 shots & remained there	1 mo. W. 128 E. 64 Sp. 5 f. b. Liver 3 f. b. Knees ok 2 mo. W. 256 E. 32 Sp. 5 f. b. Liver 3 f. b. Ankle edema 3 mo. W. 128 E. 32 Spinal neg. Spleen 5 f. b. Liver 3 f. b. 8 mo. W. 256+ E. 1 Cellulitis Penicillin 200,000 U.—No reaction 13 mo. W. 32 E. 16 Spleen 5 f. b. Liver 3 f. b. Ascites edema 15 mo. W. 32 E. 16 Spleen 5 f. b. Liver 3 f. b. Ascites, edema Readmitted for 4 mil. U.
2 yr. Col. HH289	Neg. Mother untreated	Exfoliation at 4 days for 3 days Painful swollen legs for 6 mos. with limping	Rickets Marked G. G. E. Tender non-pitting edema of extremities. Sabre shins Periostitis	W. 128 E. 32 Sp. fl. neg.	½ mil. 5,000 Q. 3 H.	Gradual spike to 105 beginning after 2nd. shot	1 mo. W. pos. E. pos. 14 mo. W. 1 E. 1 Beginning leg tenderness. Slight G. G. E. Bones still positive. Readmitted for more penicillin.
4 yr. Col. FF176	Father—rash shortly before marriage Mother—known luetic. Now rash and genital lesion Untreated	Rectal sore 2 mo. Rash 1 mo.	Generalized rash Condyloma with pos. dark field	W. 128 E. pos. Sp. fl. neg.	300,000 5,000 Q. 3 H.	None	24 hr. dark field neg. 3 mo. W. 4 E. pos. Condyloma gone 5 mo. W. neg. E. pos. 9 mo. W. neg. E. neg. 12 mo. W. dbt. E. dbt. 20 mo. W. neg. E. neg. 24 mo. W. neg. E. neg. Exam. neg.
8 yr. Col. LL187	Mat. gr. father known luetic 2 mat. aunts C. N. S. luetics Mother untreated W. pos. E. dbt. Father untreated W. neg.	Neg. Normal bright child	None	W. 32 E. dbt. Sp. fl. neg.	4 mil. 40,000 Maph. 5 mg. qd. × 12 Bi. .05 Gm. q2d × 6	Irregular Fever 102 From 10th Thru 14th day	1 mo. W. 32 E. 16 Exam. neg.
12 yr. Col. KK957	Same as above	Mental retardation	G. G. E. Mental retardation	W. 64 E. dbt. Sp. fl. neg.	4 mil. 40,000 Maph. 5 mg. qd. × 12 Bi. .05 Gm. q2d × 6	Irregular Fever 102 From 10th Thru 14th day	1 mo. W. 32 E. 8 Exam. neg.

GGE General glandular enlargement.
W Eagle Wassermann.
E Eagle flocculation test.
W 128 Wassermann 4 plus in a 1:128 dilution and less than 4 plus in a 1:256 dilution.
W 128+ Wassermann 4 plus in a 1:128 dilution. No further dilution carried out.
W dbt Wassermann less than 4 plus in a 1:1 dilution.
W pos Wassermann 4 plus in a 1:2 dilution, not titrated quantitatively.
f. b. Finger breadths.

TABLE 4.—*Congenital Syphilis of the Central Nervous System.*

Age Race Case No.	History	Findings	Serology	Penicillin	Reactions	Follow Up
13 yr. Col. KK190	Mother—luetic, untreated Patient—mentally retarded since birth Now in 2nd grade	G. G. E. Marked mental retardation	W. 16 E. 8 Sp. fl. 1cc .5cc .1cc 4+ 4+ 4+	1 mil. 20,000 Q. 3 H.	Spike after 3rd shot	None
7 yr. White KK569	Mat. g. mother luetic, untreated Mother—luetic, untreated Father—Serology neg. untreated Patient—Asymptomatic	Normal bright boy in 2nd grade	W. 32 E. 16 Sp. fl. 1cc .5cc .1cc 4+ 2+ neg.	1 mil. 10,000 Q. 3 H.	None	1 mo. W. 32 E. pos. Sp. fl. neg. 3 mo. W. 32 E. 2 Sp. fl. 1cc .5cc .1cc 1+ neg. neg. 5 mo. W. 16 E. 4 Sp. fl. neg.
11 yr. White HH429	Mother—luetic, untreated Patient— 1½ yrs. progressive mental decline 1 yr. muscle incoordination & personality change 3 wk. muscle weakness urinary retention & incontinance	Marked mental & personality disorders Inability to walk or talk A. R. Pupils Pos. Babinski	W. 356+ E. 32 Sp. fl. 1cc .5 .1 .01 4+ 4+ 3+ 2+ Protein 56 Cells 29 Gold 444333221000	4 mil. 30,000 Q. 3 H.	None	1 mo. W. 256+ E. 32 3 mo. W. 128 E. 32 Sp. fl. 1cc .5cc .1cc .05cc 4+ 4+ 2+ neg. 6 mo. W. pos. E. neg. Sp. fl. 4+ 4+ 2+ neg. 8 mo. W. 32 E. 8 very sl. mental improvement Later institutionalized
8 yr. White FF949	Mother treatment last 2 trimesters Patient— 3 yrs. ago "encephalitis." Since then progressive mental decline & personality changes	Marked mental & personality disorders Incoherent speech Hallucinations Petit mal attacks	W. 128 E. pos. Sp. fl. 1cc .5cc 1cc 4+ 4+ 4+ gold 0011211000 Protein 46	8 mil. 40,000 Q. 3 H.	None	1 mo. W. 128 E. pos. Sp. fl. 1cc .5cc .1cc .05cc .01cc 4+ 4+ 4+ 5 mo. W. 16 E. 8 Sp. fl. 4+ 4+ 4+ 1+ neg. 10 mo. W. 32 E. dbt. Sp. fl. 1+ neg. Institutionalized
10 yr. White FF10	Mother—extensive therapy before but none during pregnancy Patient— 6 yrs. ago Sporadic therapy 5 yrs. ago developed peculiar gait given 10 malaria chills. Gait has become progressively worse.	Thin Mentality fair Pupils fixed & unequal Atrophy of legs Babinski pos.	W. pos. E. pos. Sp. fl. 1cc .5cc .1cc 4+ 4+ 2+	½ mil. 5,000 Q. 3 H. Bismuth Ethyl Camphorate 2 cc. 2 times wk	None	Appetite & gait improved during therapy 4 mo. W. pos. E. pos. Spinal 1cc .5cc .1cc 4+ 4+ 1+ Readmitted for ½ mil. U. Penicillin
12 yr. White FF724	Mother C. N. S. luetic untreated Patient snuffles in infancy 8 mo. old convulsion with hemiplegia diagnosed lues but untreated For past 3 yrs. sporadic anti luetic therapy For past 2 yrs. mild mental decline	Hutchinson's teeth Spastic hemiplegia Babinski pos.	W. pos. E. pos. Sp. fl. 1cc .5cc .1cc. .05cc: 4+ 4+ 4+ 4+	2 mil. 20,000 Q. 3 H.	Spike after 3rd shot	None
7 yr. White EE549	Mother, Father 2 siblings & pt. Took intermittent therapy for the past 2 years & all became neg. except pt. For past 6 mo. slight mental decline 3 days ago sudden hemiparesis	Hutchinson's teeth Hemiparesis Hallucinations Drowsiness Pupils sluggish to light	W. pos. E. pos. Sp. fl. 55 cells Protein 104 1cc .5cc .1cc 4+ 4+ 4+ 5555543210	Fever 1½ mil. 20,000 Q. 3 H.	Spike after 3rd shot	6 cabinet treatments with slight improvement 7th treatment—severe reaction followed by semi coma and almost death After 1 wk.—penicillin 1½ mil. u. Within 1 wk. mentality much clearer & complete disappearance of hemiparesis 2 wks. unbelievable improvement in mentality. Sp. fl. 1 cc .5 cc. .1 cc 4+ 4+ 4+ protein 46 gold 555432110 4 mo. Sp. fl. 1 cc .5 cc .1 cc 4+ 4+ 4+

GGE General glandular enlargement.
W Eagle Wassermann.
E Eagle flocculation test.
W 128 Wassermann 4 plus in a 1:128 dilution and less than 4 plus in a 1:256 dilution.
W 128+ Wassermann 4 plus in a 1:128 dilution. No further dilution carried out.
W dbt Wassermann less than 4 plus in a 1:1 dilution.
W pos Wassermann 4 plus in a 1:2 dilution, not titrated quantitatively.
f. b. Finger breadths.

ostitis showed only slight improvement in twelve months. Reactions in this group were not severe. One child had a sharp rise in temperature of 105 F. which dropped to normal without change in dosage. One child was running a low grade fever which dropped to normal after penicillin was started. Results of therapy in this group show 1 child apparently cured, 3 markedly improved, 2 slightly improved. Three of these 6 children were readmitted for more penicillin.

Two asymptomatic siblings 8 and 12 years of age were given 4,000,000 units of penicillin in conjunction with mapharsen and bismuth. For four days during the second week of treatment both of these children ran a similar irregular fever which dropped to normal while treatment continued unchanged. Liver function tests, blood studies and nonprotein nitrogen tests before and after treatment, and daily urinalyses during treatment showed no abnormalities. Both

children were well nourished but gained 5 pounds within one month after penicillin was given. Extreme caution should be used with this type of intensive therapy.

CONGENITAL SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

Seven children (6 white) with central nervous system syphilis from 7 to 13 years of age were given 500,000 to 8,000,000 units of penicillin. One of these was asymptomatic, 1 was mentally retarded since birth, and 5 had definite symptoms of central nervous system involvement from six months to five years before admission. Reactions were practically nil. Results of treatment in this group are not very encouraging. None has shown a reversal of the blood Wassermann test. One, the asymptomatic child, developed a negative spinal fluid five months after therapy. Three children have been inadequately followed and 2 have been institutionalized. One child (case EE 549, table 4) is markedly improved.

CONCLUSIONS

1. Penicillin shows promise of being a very effective therapeutic agent in congenital syphilis either alone or in conjunction with other spirocheticides.

2. The optimum total dosage of penicillin and duration of its administration are still undetermined but both will probably be greater than those used in the past.

3. Herxheimer reactions occur frequently during penicillin treatment of congenital syphilis, and are more marked in young children whose infections are severe.

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ABSTRACT OF DISCUSSION

Dr. Arild E. Hansen, Galveston: My compliments to the author first for the fine presentation and second for her ingenuity in undertaking independently a study of the effectiveness of penicillin in the child with syphilis. She has gathered quite an extensive series of cases which compare favorably with the combined series studied at New Orleans, Baltimore, Philadelphia, and Galveston under the auspices of the Committee on Medical Research of the Office of Scientific Research and Development.

Her most encouraging results were observed in the series of 22 infants from 2 weeks to 8 months of age, which agrees with the reports of other investigators in the field. Of course, it is a question yet as to whether or not the bone changes of the early osteochondritis type actually are influenced by the penicillin as there is a distinct trend toward spontaneous disappearance of this manifestation.

May I mention at this time that most of the work in this field at the University of Texas Medical Branch has been carried on by my colleague, Dr. Erle E. Wilkinson; consequently, I am indebted to him for most of my information along this line. We have not been too favorably impressed with the results in our children with Clutton's joint. In one instance the symptoms flared up in the opposite knee upon completion of the course of penicillin. Likewise, the results in interstitial keratitis have been disappointing on the whole. In 2 instances interstitial keratitis developed after penicillin therapy.

The author apparently used somewhat longer doses than those employed in the early work. Interpretation of results has been rendered more difficult, in fact confusing, because it was learned that certain of the material allocated and used in the early work did not have the potency of the early material.

HYPO-LEYDIGISM AND HYPOPITUITARISM

JAMES A. GREENE, M. D.
HOUSTON, TEXAS

Hypo-Leydigism and hypopituitarism are not extremely rare and their etiology, differentiation, and proper therapy have not been adequately emphasized. Hypo-Leydigism in this discussion denotes a decrease or absence of the function of the cells of Leydig and is used in place of the term "hypogonadism in the male." The purpose of this presentation is to discuss the etiologic, diagnostic, and therapeutic aspects of hypo-Leydigism and hypopituitarism, and in addition to emphasize the differentiation of the types encountered with illustrative cases.

Hypo-Leydigism may be primary or secondary. It is to be noted from table 1 that different etiologic factors must be considered. If the condition is primary, a local lesion of the testes may be present. If secondary to hypopituitarism, the secretions of the pituitary gland may be diminished because of a local lesion of the pituitary gland or because of a systemic condition. Such systemic conditions as uncontrolled diabetes mellitus, malnutrition, or chronic infections may reduce the secretions of the pituitary and other glands of the body. A diminished activity of the cells of Leydig may occur, therefore, in such systemic conditions.

The subjective manifestations of hypo-Leydigism vary considerably and depend to a great extent upon the etiology, age of onset, and the amount of psychic trauma. In the primary cases which develop before puberty

From the Department of Medicine, Baylor University College of Medicine and Hermann Hospital.
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the only complaint is usually delayed puberty. In some instances, however, affected youths have stopped their associations with their classmates, and psychosomatic manifestations have appeared or even become prominent. In cases which develop after puberty the psychic trauma is apt to be extreme, and such manifestations may predominate. Loss of libido or impotence usually cause a great deal of alarm and anxiety. The psychosomatic manifestations of the anxiety state usually predominate.

In cases secondary to hypopituitarism the subjective manifestations caused by diminished function of the pituitary gland may predominate. If, on the other hand, the hypo-Leydigism and hypopituitarism are secondary to uncontrolled diabetes mellitus, malnutrition, or a chronic infection, the manifestations of the latter may be superimposed.

The objective manifestations are variable also. There may be none demonstrable. The external genitalia, however, may be underdeveloped or decreasing in size. The secondary sex characteristics may be absent or regressing. The body shape may be juvenile (prepubertal) or normal, and the voice may not have changed. The hair may be distributed according to the juvenile pattern or reverting to that state. The various objective manifestations of the etiologic factors may be present.

The diagnosis of hypo-Leydigism in a well established case is not difficult if puberty has not occurred. The objective manifestations of the prepubertal state establish the diagnosis, provided puberty should have appeared and simple delayed puberty can be excluded. If hypo-Leydigism occurs after puberty and it is not the result of an obvious lesion of the testes, the diagnosis may be difficult. Subjective manifestations may be prominent, but objective manifestations are usually absent or require weeks to months to be demonstrable. The differentiation of simple delayed puberty from hypo-Leydigism in boys from 15 to 18 years of age is extremely difficult. Several patients of that age group have been observed with moderate obesity and in whom puberty had not occurred. Most of these cases had been diagnosed previously as Froelich's syndrome. Puberty developed promptly in most of these boys following a reduction in body weight by diets low in calories. An erroneous diagnosis of hypo-Leydigism is apt to be made in such cases and the onset of puberty attributed falsely to the hormone therapy.

Once the diagnosis of hypo-Leydigism has been established it is necessary to ascertain whether or not it is primary or secondary. The absence of demonstrable lesions in the testes does not exclude the primary type. The presence of other manifestations of pituitary deficiency such as dwarfism or tissue paper skin over the cheek suggest a secondary type. If, on the other hand, no manifestations of pituitary deficiency are present, the problem becomes more difficult.

A therapeutic response may be of diagnostic significance in well established cases. A favorable response to adequate gonadotropic therapy would establish that the hypo-Leydigism was secondary to hypopituitarism. No response, on the other hand, would be in favor of a primary type. A favorable response to testosterone therapy would be of no definite significance. A favorable response would be obtained in either the primary or secondary types. A favorable therapeutic response to testosterone therapy is not of diagnostic value in cases developing after puberty and in which there are no demonstrable objective manifestations.

Estimation of the hormone excretions in the urine may be of tremendous diagnostic significance. As a rule the androgen excretion will be diminished in definite hypo-Leydigism. Technical difficulties are present in these estimations and in some instances the adrenal glands apparently secrete a steroid comparable to the androgens. The gonadotropic hormone is excreted in the urine in greater amounts in cases of primary hypo-Leydigism and is diminished in those secondary to pituitary deficiency. The urinary hormone estimations have been of definite value in the differentiation of the primary from the secondary type in well established cases. In mild or borderline cases, however, the methods are not sufficiently accurate or the hormone excretions are not constant enough to be of diagnostic significance.

TABLE 1.—*Classification of Etiologic Types of Hypo-Leydigism.*

1.	Primary
	A. Traumatic
	B. Destructive lesion
	(1) Neoplasm
	(2) Tuberculosis
	C. Undescended testes, bilateral
	D. Idiopathic
2.	Secondary to hypopituitarism
	A. Primary hypopituitarism
	(1) Traumatic or mechanical
	(2) Destructive lesion
	a. Tumors
	b. Tuberculosis
	c. Gummas
	d. Idiopathic
	B. Secondary hypopituitarism
	(1) Uncontrolled diabetes mellitus
	(2) Improper nutrition
	(3) Chronic infection

The treatment of hypo-Leydigism will depend upon the etiology. In the primary idiopathic type or types with obvious testicular lesions testosterone therapy is indicated. The propionate and the methyl derivatives are

available and either is effective. The propionate must be administered parenterally, whereas the methyl may also be administered orally or sublingually. I have employed methyl testosterone in most of my cases. It has been administered orally, sublingually, parenterally in oil, and as pellet implantations. Any one of these routes of administration is satisfactory if adequate doses are prescribed. Orally or sublingually approximately 30 to 100 mg. will be required daily. In oil 25 mg. from two to three times weekly will be required, and in pellets from 400 to 500 mg. should be implanted with the expectation that they will be effective for from four to five months.

After the hormone deficiency has been corrected and the abnormal physiology eradicated, the patient will continue to require a maintenance dose of hormone. In such cases I have administered 10 mg. of methyl testosterone orally two to three times weekly, and this dose is apparently adequate.

In cases of hypo-Leydigism secondary to pituitary deficiency preparations containing gonadotropic hormone should be employed. Several such preparations are available. The optimum dosage has not been established. If pituitary dwarfism is present, growth extract may be employed. I have treated all of my patients with dwarfism with the growth extract alone and they have all grown and developed sexually and in stature. The preparation has been administered intramuscularly in doses of 2 to 3 cc. two to three times weekly. After the gonadial deficiency has been corrected a maintenance dose of replacement hormone is indicated. In such cases I have administered 1 cc. of the growth extract or the gonadotropic hormone one time weekly and this dose appears to have been adequate in all cases.

In instances of uncontrolled diabetes mellitus, the diabetes should be brought under control and a sufficient time permitted to elapse before any hormone therapy is instituted. In a vast majority of such cases hormone therapy will be unnecessary. Likewise malnutrition or chronic infection should be eliminated and sufficient time permitted to elapse for improvement before hormone therapy is instituted.

The treatment of impotence will depend upon the etiology. Hormone therapy has not been indicated in my experience and a vast majority of such cases have been the result of psychic difficulties. The correction of those difficulties has been necessary, therefore, in such cases.

The male climacteric has been rare in my experience and the few cases which I have treated have responded to 10 mg. of methyl testosterone orally each day. After the manifestations had subsided a maintenance dose of 10 mg. two to three times weekly was adequate.

CASE REPORTS

CASE 1.—A white man, aged 23 years, entered the hospital complaining of inadequate development of the external genitalia and secondary sex characteristics. He was shy and had limited his social activities to the bare minimum. The body was of the juvenile or prepubertal shape with hair only in the pubic area and there it was sparse. The penis was 1.5 inches in length and the testes were not in the scrotum. The right one was palpable in the inguinal canal and was approximately 1 cm. in diameter. The left one was not palpable in the canal or scrotum. The hypo-Leydigism in this case was primary and was caused by undescended testes.

CASE 2.—A white man, aged 20 years, entered the hospital complaining of inadequate growth and sexual development of eight years duration. He ceased growing and developing at 12 years of age and one year later a tumor (type unknown) of the pituitary was discovered and was removed. Since that time he had not grown or developed. The body was prepubertal in shape and with prepubertal hair distribution. The penis was 1 inch in length and the testes were approximately .5 cm. in diameter. The hypo-Leydigism in this case was secondary to a destructive lesion of the pituitary gland.

CASE 3.—A white man, aged 25 years, entered the hospital complaining of lack of growth and sexual development of twelve years duration. He developed diabetes at 12.5 years of age and it was never adequately controlled. He ceased growing and developing at the age of 12 years. The hair distribution and shape of the body was that of prepubertal character. The penis was 2 inches in length and the testes were approximately 1 cm. in diameter. The hypo-Leydigism in this case was secondary to hypopituitarism, which in turn was secondary to uncontrolled diabetes mellitus.

CASE 4.—A white boy, aged 17 years, entered the hospital complaining of lack of growth and sexual development. He had been a feeding problem from birth and had never eaten the proper types nor amounts of food. He had never grown in a normal manner and his small size became more apparent as the prepubertal growth of his classmates occurred. His development was approximately that of 11 years. Correction of the psychic difficulties which had interfered with his proper food intake permitted him to grow and develop normally and within two years he had nearly overtaken his classmates in size and development. The hypo-Leydigism in this case was secondary to improper nutrition.

CASE 5.—A white boy, aged 14 years, entered the hospital complaining of lack of sexual development. He had always been obese, but had been of average height. The secondary sexual characteristics had not appeared and the external genitalia had not grown for four years. The hair distribution and body shape were prepubertal. The penis was 1 inch in length and the testes were approximately .5 cm. in diameter. Reduction of body weight with a diet insufficient in calories was followed promptly by the onset of puberty. The delayed puberty in this case was that which may be associated with obesity and is frequently called Froelich's syndrome.

CASE 6.—A white boy, aged 18 years, entered the hospital complaining of lack of growth and sexual development and a chronic diarrhea of five years duration. He was of normal size and development until 13 years of age, at which time he developed a diarrhea which had persisted to admission. Following the development of the diarrhea he ceased to grow and develop. His growth and development was ap-

proximately that of a 13 year old boy. Correction of the diarrhea permitted this boy to grow and develop. The hypo-Leydigism in this case was secondary to a chronic infection and improper nutrition.

SUMMARY

The etiology, diagnosis, and therapy of hypo-Leydigism and hypopituitarism have been discussed.

The etiology may be primary or secondary.

The diagnosis depends upon the objective manifestations, urinary hormone excretion, and therapeutic response if objective response is demonstrable. Simple delayed puberty must be excluded.

When the condition is present, the differentiation of primary and secondary types must be ascertained.

The treatment will depend upon the type present and a maintenance dose of hormone should be continued after the abnormal physiology has been eradicated.

Six cases have been presented to illustrate the types which may be encountered.

ABSTRACT OF DISCUSSION

Dr. Raymond Gregory, Galveston: Dr. Greene is to be commended on having called our attention so effectively to the distinction between primary and secondary hypo-Leydigism. It is essential that this differentiation be kept in mind if one is to apply the proper substitution type of therapy in the primary and the proper stimulating therapy in the secondary type of hypo-Leydigism. The use of potent androgenic hormones now available in the secondary type of hypogonadism is not only contraindicated but will, if persisted in, cause damage to the testicle which should be stimulated by the use of gonadotropins.

Proper evaluation of hormonal agents both for therapeutic and diagnostic purposes has been interfered with in the past by lack of potency, particularly of gonadotropic substances. This is still unfortunately the case in regard to the gonadotropins directly derived from the anterior pituitary gland. Further interference has undoubtedly resulted from failure to make sufficiently early diagnoses, particularly in the secondary type of hypo-Leydigism. It is reasonable to believe that the end organ, such as the testicle, may remain unstimulated by the anterior pituitary gonadotropins so long that it will not respond to the presence of these substances. This is well exemplified by cretinism which can be completely corrected by the use of proper endocrine therapy if diagnosed early enough. If too long an interval has elapsed, however, thyroid medication cures but few, if any, of the manifestations of cretinism.

A word of caution is indicated regarding the so-called male climacteric. There can be little doubt that physiological regressions do occur with advancing years. The most ardent proponents of the concepts of the male climacteric admit the extreme infrequency with which the symptom complex is seen. This in itself seems sufficient evidence to warrant the belief that when it occurs it is the result of some disease process rather than a natural physiological change resulting from aging.

The symptoms of the male climacteric are so similar, if not identical, with the symptoms of the various anxiety types of psychoneurosis that it is essential that a proper survey of the patient for psychogenic causes of the symptoms be done in every instance before subjecting him to the potent androgenic substances which are now available. The increase in libido which may result from these substances may be harmful to middle-aged and older men, particularly those with impaired cardiovascular systems.

The metabolic effects of the androgenic hormones will probably be found to have a much greater usefulness in the future than those relating to the purely sexual functions of these hormones.

Dr. Arthur Grollman, Dallas: Hormonal deficiency of the testis is caused by a failure of the interstitial or Leydig cells and may be the result of a great variety of causes.* I doubt very much if all instances in which this failure occurs as a result of malnutrition, chronic infection, diabetes, and so forth can be attributed to pituitary insufficiency although the latter, if primary, will of course induce a failure of this function. However, any debilitating condition regardless of its origin may secondarily induce failure of reproductive function including hypo-activity of the interstitial tissue. Pituitary insufficiency also gives rise to failure of spermatogenesis and paradoxically the administration of testosterone at least in the hypophysectomized animal will prevent this tubular dysfunction. Although testosterone and its derivatives offer the best substitution therapy for failure of the interstitial cells, the results of therapy still leave much to be desired. Large doses are necessary to obtain the desired effects. Although hormone analyses of the urine are of theoretical and experimental importance, I question their practical value clinically, particularly as determined by the excretion of ketosteroid bodies, the greater part of which originate in the adrenal cortex and are not necessarily androgenic in function. Except in the treatment of cryptorchidism, the use of either pituitary or gonadotropic extracts has been very disappointing clinically both in the treatment of reproductive failure as well as in dwarfism.

Dr. Greene, closing: I wish to thank the participants for their excellent cooperation and discussion of this paper. In the human being who has hypopituitarism and hypo-Leydigism, the administration of testosterone does not correct the hypopituitarism. Dr. Grollman is correct in emphasizing that ketosteroid bodies may not be a very good index of the androgen excretion. The treatment of dwarfism by the growth extract, contrary to the experience of a good many other investigators, has been gratifying to me, and we have obtained much better results than we ever anticipated. One of the big difficulties in the treatment of dwarfs has been the expected result by the investigator. Certainly a person who has dwarfism could never be expected to catch up with other persons of the same age group if he has lost many years of time. For an illustration, it would be difficult for a 26 year old dwarf to grow to be 6 feet tall if he was only 3 feet before treatment. I would like to emphasize that the male climacteric in my experience has been extremely rare. I think many, many male patients have been treated who did not have a climacteric.

*Grollman, A.: Essentials of Endocrinology, ed. 2, Philadelphia, J. B. Lippincott, 1946.

CONGESTIVE HEART FAILURE THERAPY

Restriction of salt in the diet with a liberal intake of fluid for patients with congestive heart failure, especially those with coronary and hypertensive heart disease, is recommended by three Boston physicians. Drs. Edwin O. Wheeler, William C. Bridges, and Paul D. White, in the January 4 issue of *The Journal of the American Medical Association,* report that of 35 patients with congestive heart diseases of all types who followed the salt restricted diet faithfully 22 were made better and none was made worse.

PERIANAL AND PERIRECTAL INFECTIONS

JOHN McGIVNEY, M. D.
GALVESTON, TEXAS

The behavior of infection in the perianal and perirectal regions is so unusual and so peculiar to this area that it is difficult for one to understand completely unless he is well acquainted with the anatomy involved.

For many years perianal and perirectal infections were thought to originate with an abscess and terminate in a fistula; however, subsequent study and a better knowledge of the embryology and anatomy of this region have disclosed the fact that the process is much more complex than had been supposed. There are a number of factors which exert a constant influence on these infections, and it is usually the presence of one or more of these factors which precipitates the infectious process. These are as follows:

1. The constant presence of pathogenic organisms in the area is an ever present threat to the surrounding tissues. All that is needed to initiate an infectious process is some disturbance of that intricate mechanism which balances resistance against infection.

2. A debilitating disease such as diabetes or tuberculosis may be the factor which lowers the resistance to infection in the perianal and perirectal region. At one time it was thought that practically all the infections in this area were tuberculous in origin. The two factors which probably contributed most to this belief were, first, the debilitating nature of the disease, and, second, the prevalence of inadequate surgery with its high recurrence rate. It is now recognized that only about 8 per cent of infections in this area are of a tuberculous nature.[3]

3. The presence of constant trauma in the area is frequently a factor which initiates an infectious process. The anorectum is a busy thoroughfare. It seems if there is not something coming out of it, something is being put into it, so that trauma of some kind constantly threatens.

4. The presence of an abundance of areolar tissue in the perianal and perirectal spaces, having a poor blood supply, encourages the spread of infection. This tissue offers only a minimum amount of resistance to infection so that when it does reach the area, suppuration usually follows.

5. It is a recognized fact that the terminal portion of the large bowel is the site of more infections than any other portion of the colon. This fact alone suggests that there must be some anatomic peculiarity of this region which contributes to the frequency of infection. With this in mind, let us review very briefly the development and anatomy of the area.

From the Department of Surgery, University of Texas School of Medicine.
Read before the Texas Society of Gastro-Enterologists and Proctologists, Galveston, Texas, May 6, 1946.

The blind end of the hind gut in the vicinity of the allantois becomes dilated about the third week of embryonic life to form a pouch known as the entodermal cloaca. Shortly after the third week, the entodermal cloaca descends and, at the same time, that portion of the ectoderm known as the proctodeum becomes invaginated and the depression thus formed is called the anal pit. In this way, the entodermal cloaca and the proctodeum approach each other. Between the sixth and seventh week, the entodermal cloaca is divided into an anterior urogenital and posterior rectal portion by the urogenital septum which later extends towards the surface until finally it becomes the perineal body. During this time, the entodermal cloaca and proctodeum have become fused to form the anal plate or anorectal membrane. At the eighth week, this membrane is absorbed, leaving a free communication between the rectum and anus; this juncture between the cloaca and proctodeum has as its vestige in the adult the anorectal line which is so important to perianal and perirectal infections.

Because of the difficulty of dissection in the anorectal region, and because of the frequent variations from the normal, the anatomy of this region is widely misunderstood. The descriptions in the anatomy texts have become antiquated, many of the illustrations have become stereotyped, and actually they are not based on anatomic facts. The dissections of Milligan and Morgan,[4] and Gorsch[2] have completely changed the concept of anorectal anatomy and their observations have been confirmed by me in the dissection of fresh specimens secured from the autopsy room. It is with this information at hand that an attempt will be made to bring the anatomy of the anorectal region up to date.

The external sphincter muscle (fig. 1) is now described as consisting of three strata of distinct muscular bundles and the trilaminar arrangement of this muscle follows the general laminated arrangement of the urogenital muscles, which is not surprising since both developed from a single cloacal muscle. The three divisions of the muscle are (1) the subcutaneous external sphincter, (2) the superficial external sphincter, and (3) the deep external sphincter. The subcutaneous portion of the external sphincter muscle is situated immediately below the transitional skin (transiderm), and it is usually distinctly palpable throughout its en-

tire extent. This muscle is frequently mistaken for the entire external sphincter muscle, whereas it is but the subcutaneous portion. The bulk of this muscle is usually annular although there are occasionally a few small posterior extensions. The superficial portion of the external sphincter muscle is an elliptical band of fibers which embraces the anal canal in a clamp-like fashion at the level of the internal sphincter. It is the largest, longest, and strongest of the three divisions. It arises from the sides of the coccyx and its diverging halves surround the midportion of the anal canal on each side; then converging, they insert into the central tendinous raphe. None of the fibers is annularly disposed. The deep portion of the external sphincter is situated immediately above the superficial. Its fibers are usually annular and from its anterior portion occasionally are projected insertions as far laterally as the ischial tuberosity.

The longitudinal muscle coat of the rectum (fig. 2) is formed by an attenuation of the taenia of the sigmoid which spread out to surround the inner circular muscle coat. At the anorectal junction it becomes somewhat more fibro-elastic in character and, fusing with the fascial reflexions of the levator ani muscle, it forms the important conjoined longitudinal muscle. From this muscle are given off fibro-elastic extensions (fig. 3) which surround and penetrate the external sphincter muscle and, to a less degree, the internal, and terminate partially in the lining membrane of the anal canal and partially in the perianal skin as the corrugator cutis ani muscle. In fact, it is the extensions of this conjoined structure which give the external sphincter its essentially trilaminar arrangement. These fibro-elastic extensions form a fan-like septal network which is observed to penetrate and interweave the actual substance of the muscles, presenting a reticulum-like support for them. They require particular consideration because of their importance to the pathogenesis of the more common anorectal diseases. Those fibro-elastic extensions which are inserted into the anal canal are particularly prominent between the sphincters to form the anal intramuscular septum, sometimes known as the intersphincteric line, or the white line of Hilton. This fascial arrangement fixes and protects the anal canal, preventing its eversion, and acts as tendon sheaths for the divisions of the anal musculature. There is no doubt that these fibro-elastic extensions have a definite directive influence on the extensions of infection to the perianal and perirectal spaces.

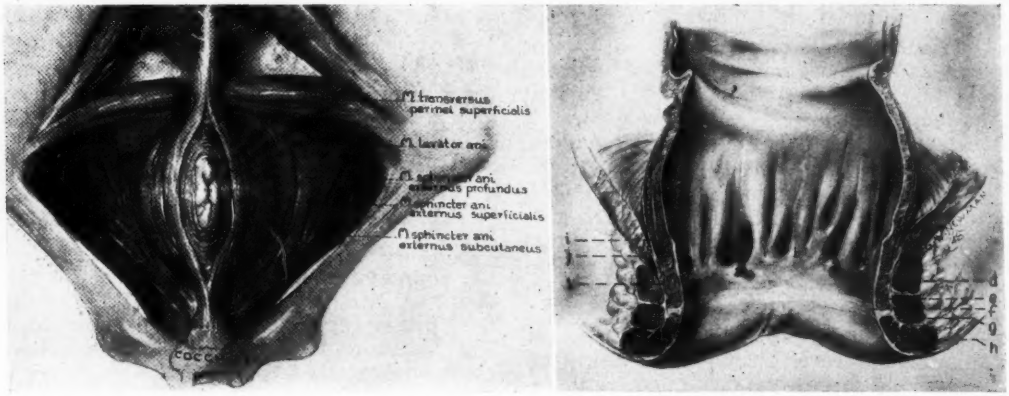


FIG. 1. The anorectal musculature. (After Blaisdell: Surg., Gynec. & Obst. 65:672-677 (Nov.) 1937.)

FIG. 2. The anorectal region. *a*, anal papilla; *b*, rectal column; *c*, anal crypt; *d*, deep external sphincter muscle; *e*, internal sphincter; *f*, anal intermuscular septum; *g*, superficial external sphincter muscle; *h*, subcutaneous external sphincter muscle; *i*, longitudinal muscle; *j*, levator and muscle; *k*, conjoined longitudinal muscle.

The internal sphincter muscle is the termination of the inner circular muscle coat of the rectum projected into the anal canal. Immediately below its lower margin, it is separated from the upper border of the subcutaneous portion of the external sphincter muscle by the anal intermuscular septum. Overlying the internal sphincter is the important pecten which contains the crypts, glands, connecting lymphatics, capillaries and nerves.

The lining of the anal canal is a transitional membrane, varying from true skin, which, losing its glandular elements, gradually changes to a more or less stratified squamous epithelial surface. This lining terminates somewhat abruptly, but irregularly, at the anorectal line. It is smooth, grayish, poorly vascularized and closely adherent to the underlying tissue. The inter-

muscular septum which lies in the interval between the internal sphincter and the subcutaneous portion of the external sphincter is one of the most important landmarks in the anal canal. Between it and the anorectal line above is a narrow but important upper zone of the anal canal, known as the pecten (mentioned earlier), which varies from 3 to 7 mm. or more in width. The pecten contains the subepithelial areolar tissue which is continuous with the submucosa of the rectum above, and this areolar tissue contains

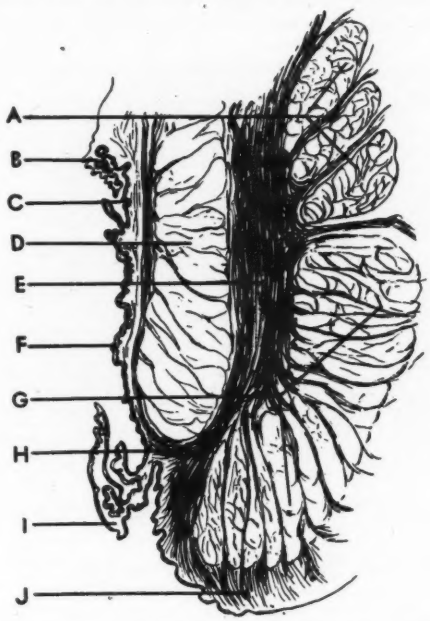


FIG. 3. The conjoined longitudinal muscle. *A*, levator ani muscle; *B*, rectal gland; *C*, anal crypt; *D*, internal sphincter muscle; *E*, conjoined longitudinal muscle; *F*, pecten; *G*, external sphincter muscle; *H*, anal intermuscular septum; *I*, skin tag; *J*, corrigator cutis and muscle. (After Gorsch: Perineopelvic Anatomy from the Proctologist's Viewpoint, New York, Tilghman Co., 1941.)

the anal intramuscular glands and ducts which drain into the anal canal and the recesses of the anal crypts. It is this subepithelial tissue of the pecten with its glands, lymphatics, and capillary network which is of the greatest importance to anorectal infections. Chronic infection of this tissue often results in anal fibrosis or pectenosis and its lowest margin, the anal intermuscular septum, is a frequent location for the primary openings of fistulae. The anorectal line marks the upper margin of the pecten and here are found the crypts, anal valves, rectal columns, and anal papillae. The anal papillae are not characteristic of the anorectal line as they are more often absent than present. The anal crypts are tiny recesses projected between adjacent rectal columns and behind the valves. There is considerable variation in number, depth, and shape of these crypts, the more constant and larger crypts usually being found just to each side of the posterior commissure. The anal intramuscular glands and ducts frequently are connected with the caudal end of the crypts.

It is now generally agreed that practically all perianal and perirectal infections begin at or near the anorectal line. Debris and infection are constantly being forced into the crypts so that when some unusual trauma breaks down the natural barrier, this infection usually obtains a foothold. The infection may begin in an intramuscular gland which empties into the crypts or in the crypt itself, but at any rate, this is the first phase of an infectious process. The picture (fig. 4) which is usually seen at this stage of the process is a cryptitis and an accompanying papillitis—the birth of anorectal infection. Examination reveals the crypts to be marked by a definite hyperemia at their margins and much more prominent than those ordinarily seen. Pressure over one of the involved crypts may obtain a drop of pus or perhaps upon probing the exudate may appear. At any rate, one or more of the crypts are usually much more extensive than those ordinarily seen, sometimes admitting a probe as far out as the anal verge and eliciting a considerable amount of pain on the part of the patient. The papillae usually become involved by the same infection as that involving the crypts, so that a hypertrophy of these structures is frequently seen as a part of the picture. The infection may remain restricted to this area for a considerable period of time, producing chronic symptoms both local and reflex from time to time or no symptoms at all. Occasionally there results a series of small subcryptic abscesses which drain from time to time into the bowel or perhaps progress into one of the more extensive abscesses. These as well as the cryptitis may not produce symptoms sufficiently severe to direct attention to the area, but there is no doubt that they could persistently infect the blood stream to such an extent as to serve as a focus of infection to other systems of the body. All physicians from time to time have been impressed by the disappearance of remote symptoms after eradication of anorectal infection and they will continue to be rewarded if they are alert to these low grade infections. It is probable that only a routine proctologic examination will reveal their presence and permit the necessary treatment.

During the second phase of the process,

infection begins to extend from the crypt in various directions:

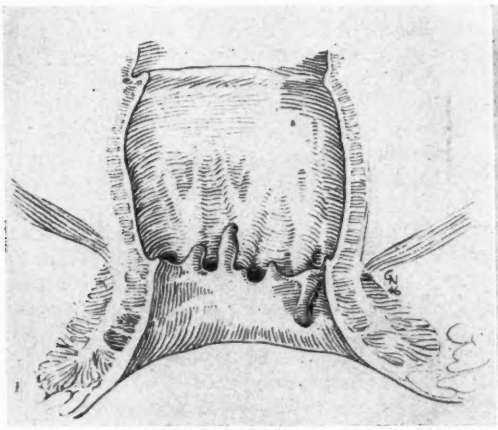
1. It may extend beneath the transitional skin of the anal canal, superficial to the anal muscles.
2. It may force its way through the body of the external sphincter.
3. It may burrow through or under the internal sphincter muscle to reach the pelvirectal or retrorectal space.
4. The infection may spread upward in the submucosa to form a submucous abscess in the rectum.

The third stage is characterized by abscess formation in the areola tissue of the perianal and perirectal spaces. These abscesses have been classified by Bacon[1] according to their relation to the levator ani muscle (fig. 5):

I. Infralevator abscesses
   a. Cutaneous (furuncle)
   b. Subcutaneous (usually results from infection extending from the anorectal line)
   c. Ischiorectal (usually results from infection extending from the anorectal line)

II. Superlevator abscesses
   a. Submucous
   b. Pelvirectal
   c. Retrorectal

The abscesses below the levator muscle are usually accompanied by a varying amount of pain, fever, and perhaps chills, and the treatment of choice is early incision and drainage before the process becomes too extensive. The abscesses above the muscle are also characterized by fever and occasional chills, but pain is not a prominent symptom, although occasionally the more extensive abscesses may produce lower abdominal pain and muscle rigidity on the side involved. The submucous type, if bulging into the lumen of the rectum, may be incised inside the bowel, but those in the pelvirectal space should not be incised through the rectal wall, for such an incision will create an internal fistula which will be extremely difficult to treat. Drainage is best secured by an incision just outside of the sphincter fibers, plunging a blunt hemostat through the ischiorectal space, through the levator ani muscle into the abscess cavity. This procedure produces a fistula more amenable to treatment.



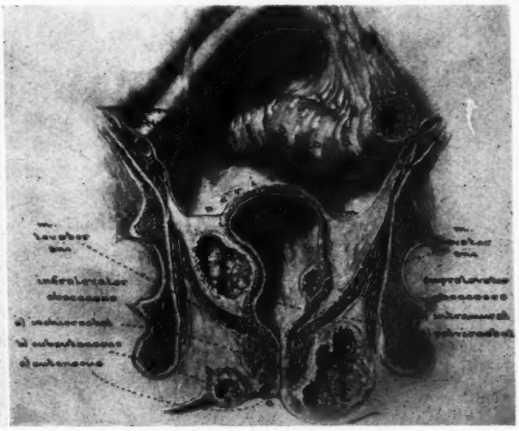


FIG. 4. Cryptitis and papillitis.
FIG. 5. Abscesses of the anorectal region. (After Bacon: Anus, Rectum, Sigmoid Colon: Diagnosis and Treatment, ed. 2, Philadelphia, J. B. Lippincott Co., 1940.)

The retrorectal abscesses are in a space (fig. 6) posterior to the rectum and in front of the sacrum, bounded above by the peritoneal reflection and below by the levator ani muscle. On each side are the lateral ligaments of the rectum. As in the case of the pelvirectal abscesses, these abscesses also should not be drained through the rectal wall, but through an incision just behind and lateral to the posterior commissure of the anus.

There is one point which should be emphasized and that is that these abscesses are not resolved by the sulfonamides or the antibiotics. Correct treatment demands that the pus be evacuated surgically, regardless of its location, as soon as its presence is detected.

In the fourth stage, the abscess either ruptures spontaneously internally or externally, or an operation is performed to evacuate its contents. In either event, the abscess cavity shrinks down and usually a fistulous tract remains. The sequence of events in-

volving this fistulous tract is usually as follows:

1. In 0.5 per cent of the cases, the infectious process apparently subsides permanently.

2. In about 85 per cent of the cases, the infection subsides, and the secondary opening becomes temporarily obliterated. After a certain period of time, the infection becomes reactivated and again drainage occurs through the secondary opening, or perhaps the infection burrows off in a new direction.

3. In about 15 per cent of the cases, the infection remains active and drainage through the tract is almost constant. These fistulas should strongly suggest that the infection is not of the ordinary type. Continued drainage may be the result of (a) tuberculosis, actinomycosis, syphilis, microaerophilic hemolytic streptococcus or lymphopathia venereum infection; (b) a foreign body in the abscess cavity; (c) a massive infection which has been neglected; or (d) osteomyelitis of the coccyx or adjacent bones.

The treatment of choice, of course, is always surgical and includes the complete incision or excision of the fistulous tract from its primary opening to its secondary opening, removing all the diseased tissue, and constructing the wound in such a fashion that it will fill in with healthy granulation tissue from its bottom upward.

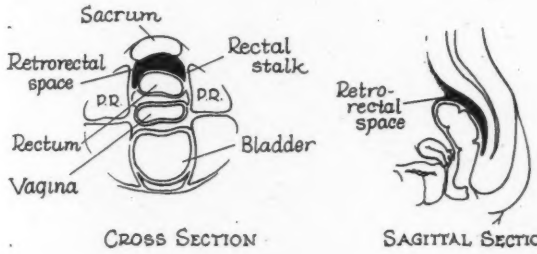


FIG. 6. Schematic drawing of cross and sagittal sections of retrorectal space, showing its anatomic relations.

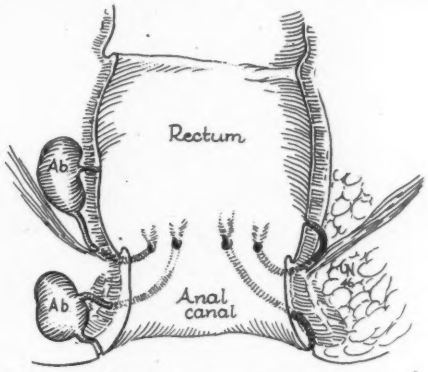


FIG. 7. Anorectal fistulae. The anorectal abscesses are on the left and the resulting fistulae on the right.

SUMMARY

1. Low-grade infections of the anorectal region are frequently unrecognized.

2. Early diagnosis and treatment are essential to an early and complete recovery.

3. It has been necessary to review the development and the anatomy of the anorectal region because a thorough understanding of anorectal infections is predicated on a thorough knowledge of these subjects.

4. A complete proctologic investigation should be included in examining patients, especially in a search for a focus of infection. It should not be reserved for those patients who present symptoms referable to the anorectal region.

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ABSTRACT OF DISCUSSION

Dr. Herbert T. Hayes, Houston: Dr. McGivney's discussion of perianal and perirectal infections has been very ably handled.

He has reviewed for us the etiological factors, which are very important. He called to our mind particularly the fact that tuberculosis, formerly thought to be a very frequent occurrence, is rare in this region.

I think it was very helpful for Dr. McGivney to discuss the anatomy of the anorectal region, especially the anatomy of the muscles, for I think if the surgeon understands the muscle arrangement of the anal canal, he is less likely to get in trouble when operating in this region. It is surprising the number of people who think there is only one small muscle for bowel control and if that is cut there is no control.

Dr. McGivney emphasized another important thing, that is, the amount of infection that is frequently present in the anal canal, even without the patient having a fistula or an abscess. He may have badly infected crypts and hemorrhoids that are a constant foci of infection. All of us have seen patients who could almost be taken to have pernicious anemia. These patients would be worked over completely by the internist and be suspected of having a neoplasm or something else equally as serious, only to find that their anemia was from badly infected bleeding hemorrhoids.

I agree with Dr. McGivney that the rectal abscess should be operated on usually as soon as possible, for most of such abscesses occur in loose tissue and they spread very rapidly. I have encountered 2 during the past year that completely encircled the rectum. In these cases the physician was waiting for the abscesses to come to a head.

I think one of the chief points that Dr. McGivney has tried to put over is the importance of investigating the rectum as a source of infection.

UTEROSALPINGOGRAPHY

REPORT OF A FATALITY

ARTHUR M. FARIS, M. D., and
ALLEN McMURREY, M. D., F. A. C. S.
HOUSTON, TEXAS

The purpose of this paper is to present some of the pathologic entities and developmental anomalies that can readily be demonstrated by uterosalpingography, and to report a fatality which resulted from this procedure. Roentgen visualization of the uterus and tubes, through use of opaque medium injected into these structures, is a valuable aid not only in confirming or disproving suspected lesions but also as a therapeutic measure in certain instances. Its most extensive usefulness is in problems of sterility, pelvic tumors, and congenital malformations. Through the use of stereoscopic views the size and location of intrapelvic organs and growths may be determined; however, in most cases a flat plate will give the information desired.

Credit for the initial work in this country goes to William Cary,[2] who in 1914 reported radiographic studies of the uterus and tubes, using collargol as the contrast medium. Shortly thereafter Rubin[10] published his first work along the same line. Since then many advances in technique refinement and radiopaque substances have been made, the most significant of these being the introduction of lipiodol by Heuser in 1921. All materials used previously had caused marked peritoneal irritation when extruded from the tubes. The test is now generally considered to be a relatively safe and simple procedure.

The commonly accepted contraindications are genital infections, pregnancy, and vaginal bleeding. Miller[7] attributes most of the febrile reactions to failure in recognizing cervicitis or incompletely subsided salpingitis. In a survey of the literature Feiner[4] found an average morbidity of 0.5 per cent in 13,424 cases following utero-salpingography. This is approximately five times greater than the reported morbidity following tubal insufflation.

Most observers agree on the first week after menstruation as the optimum time for the test, particularly when information concerning tubal patency is desired. Hysterograms can be made at any time during the cycle except when active bleeding is present.

FIG. 1. An essentially normal uterosalpingogram with a symmetrical uterine cavity and the opaque media appearing as droplets within the peritoneal cavity.

FIG. 2. A large cyst of the cervix, also a defect of the fundus and occlusion of the tubes at either cornu.

Our technique has no essential differences from that which has been described numerous times in current literature. We usually use a Colvin screw-type canula, through which the contrast medium is injected. There are a number of iodized preparations available for this purpose but for most studies we have used lipoiodine. This material is preferred because it is readily absorbed and apparently less irritating to the tissues. It is rare to find any roentgen evidence of this substance remaining in the tissues longer than a few hours following its use. It is slowly instilled under fluoroscopic visualization and films

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are made immediately thereafter. Frequently, during examinations for tubal patency, these plates will reveal some of the medium in the peritoneal cavity that could not be detected by fluoroscopy. When one of the more slowly absorbed materials has been used (lipiodol, skiodan-acacia, and so forth), recheck films after a twenty-four hour interval may give added information where tubal patency is questionable.

CASE ILLUSTRATIONS

Figure 1 shows an essentially normal uterosalpingogram with visualization of a symmetrical uterine cavity, both tubes in their usual relationship with surrounding structures, and the opaque medium within the peritoneal cavity proving tubal patency.

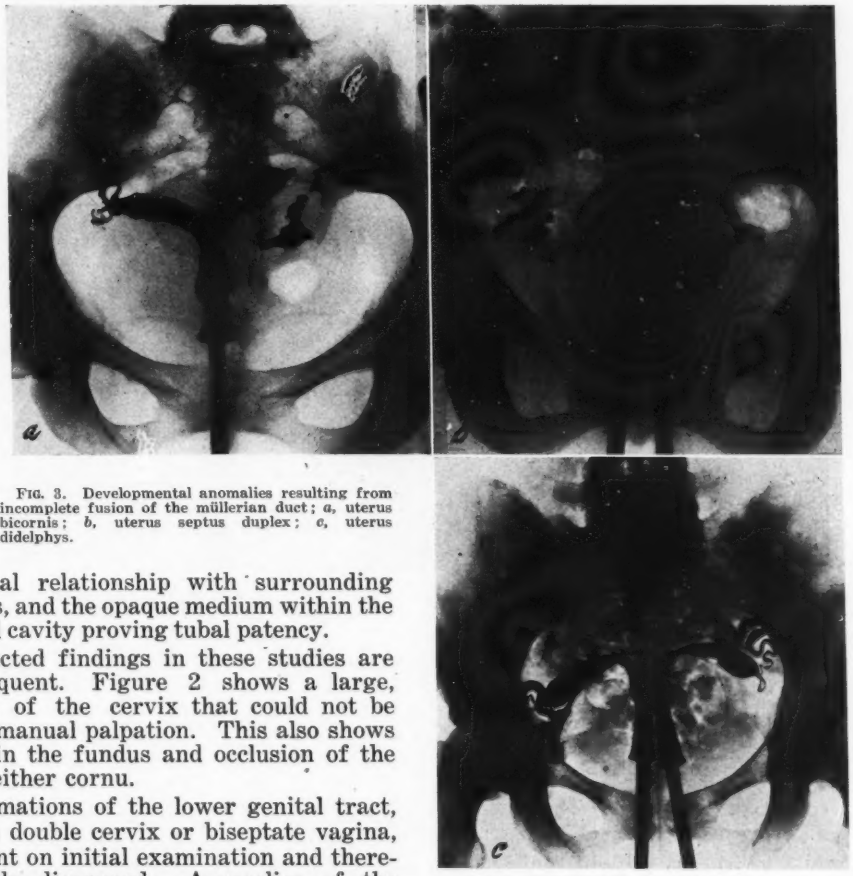

FIG. 3. Developmental anomalies resulting from incomplete fusion of the müllerian duct; *a*, uterus bicornis; *b*, uterus septus duplex; *c*, uterus didelphys.

Unexpected findings in these studies are not infrequent. Figure 2 shows a large, soft cyst of the cervix that could not be felt on bimanual palpation. This also shows a defect in the fundus and occlusion of the tubes at either cornu.

Malformations of the lower genital tract, such as a double cervix or biseptate vagina, are evident on initial examination and therefore easily diagnosed. Anomalies of the upper tract, on the other hand, may remain obscure until accidentally found by roentgen studies. Figure 3 shows varying degrees of the same deformity from a uterus bicornis to a complete didelpys with double vagina, all resulting from incomplete fusion of the müllerian ducts. The patient of this figure complained of sterility and severe dysmenorrhea. No improvement was obtained by a prolonged period of office treatments and a presacral sympathectomy was advised as a last resort. At operation the left uterus showed very poor muscular development and was removed. The thick vaginal septum was excised at the same time. She subsequently became pregnant and delivered spontaneously.

Figure 4 illustrates a filling defect in the right uterine cornu which proved to be a sessile polyp. The patient complained of postmenopausal bleeding. At the time of the initial examination a small polyp was found in the cervical canal but this did not appear to be the source of the bleeding. Although the underlying pathologic condition in this case was shown by roentgen study, curettage was indicated not only to remove the fundal polyp but also to rule out the possibility of associated malignancy of the endometrium. Cure was effected by thorough curettage and radium therapy.

Figure 5 shows distortion of the uterine

cavity by a large fibroid. Such studies are occasionally of value in differentiation of various intrapelvic tumor masses. With smaller tumors such information is often very helpful in determining whether a myomectomy can be done in women who are desirous of retaining their capacity for future pregnancy.

Occlusion of the isthmial portion of both tubes is shown in figure 6. Prior to arriving at such a diagnosis it is necessary to rule out tubal spasm, which may produce an apparent occlusion. In cases of this type Victor Bonney[1] and Green-Armytage[5] have reported a high percentage of pregnancies following intra-uterine transplantation of the tubes. Most observers, however, do not feel that this procedure is sufficiently successful to justify the operation. This patient had no complaints other than sterility and was advised to adopt a baby.

FIG. 4. Filling defect in the uterine fundus produced by a sessile polyp.

FIG. 5. Distortion of the uterine cavity by a large fibroid.

Figure 7 shows an example of chronic bilateral hydrosalpinx. This is not an uncommon condition in sterility cases with a history of previous infection. After the usual precautions to determine that the infection had completely subsided, this patient had several unsuccessful attempts to insufflate the tubes with carbon dioxide. A salpingogram was then done and a small amount of the opaque medium can be seen in the peritoneal cavity. When subsequent insufflations were done the gas passed easily at 70 mm. mercury pressure. This is a good example of the therapeutic value of iodized oil in breaking up fimbrial adhesions which had caused complete tubal occlusion. The goal of pregnancy was eventually reached by this patient but it was not of a desired type. Approximately eight months later a laparotomy was performed for a right ectopic gestation. After amputation of the distal third of the right tube a cuff-type plastic procedure was done on the remaining portion. Inspection of the left tube revealed a healed inflammatory process in which fimbrial occlusion had persisted. Insufflations were again instituted a few weeks after operation and the gas passed freely at 80 mm. mercury pressure. The patient is still making every effort to become pregnant.

Fimbrial occlusion of the tubes can be surgically corrected in a much higher percentage of cases than interstitial obstructions, and is a justifiable procedure in certain well selected patients. It is particularly important that any such operative measure be preceded by salpingography to ensure patency of the tubes, other than at the fimbrial end. It is equally important to institute postoperative insufflations as early as possible to prevent recurrence of the obstruction.

Figure 8 shows an example of intravasation of the opaque medium into the uterine bed and lateral pelvic veins. After several unsuccessful attempts to insufflate the tubes a uterosalpingogram was done using 10 cc. of lipiodine. The material passed easily into the uterine cavity and between 3 and 4 cc. was recovered. The patient experienced no reaction other than a slight cough. A roent-

genogram of the chest was immediately made and it showed no evidence of the opaque medium in the lung fields. A roentgen study of the pelvis two hours later revealed almost complete disappearance of all the opaque material except for small amounts in the uterine wall.

The case report of fatality immediately following uterosalpingography which occurred in the series of one of the authors (A. L. M.) is submitted:

CASE REPORT OF A FATALITY

A 35 year old white woman was first seen in March, 1945, because she had been unable to conceive during her ten years of marriage. She gave a history of pelvic infection fifteen years previously which required her to remain in bed for three months because of pain and fever. There had been no recurrence of these symptoms and she had no complaint other than sterility.

Her general physical examination was essentially normal. On speculum visualization the cervix was found to be smooth and normal. The uterus was anterior, freely movable, and not enlarged. There were no adnexal masses or areas of tenderness on either side.

During the next two months three unsuccessful insufflations were attempted. On May 21, a uterosalpingogram revealed occlusion of the tubes at each cornu. There were no reactions following the injection of gas or iodized oil; however, the patient complained of marked pain each time the canula was inserted in the cervix. She was told that her chances of becoming pregnant were practically negligible but she insisted that further studies be made. Three months later, on September 11, another attempt was made to pass opaque medium through the tubes. On this occasion she was given approximately ten minutes of light cyclopropane anesthesia to eliminate the severe pain she had experienced with previous tests. Twelve cc. of lipiodine were slowly instilled into the uterine cavity and stereoscopic roentgenograms taken. About 3 cc. was recovered when the canula was removed. The material passed into the cavity very easily.

Her condition remained good until eight minutes later when she rapidly developed a grayish pallor while being transported to her room. Simultaneously the pulse became very weak and she died within the next five minutes. Stimulants, oxygen, and artificial respiration were used to no avail.

The stereoscopic roentgenograms clearly show the medium filling numerous small veins throughout the uterine wall, as well as the large veins laterally (fig. 9). These roentgenograms taken about thirty seconds apart, show the lipiodine coursing upward in the large veins.

Postmorten roentgenograms of the abdomen, chest, and head were taken four hours later and no abnormality or trace of the medium could be found in any of the films.

Unfortunately an autopsy was not done. A permit for that examination was obtained but the body was removed from the hospital before it could be performed.

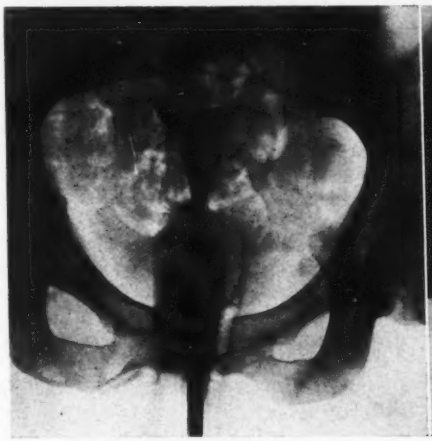

FIG. 6. Occlusion of the proximal end of both tubes.

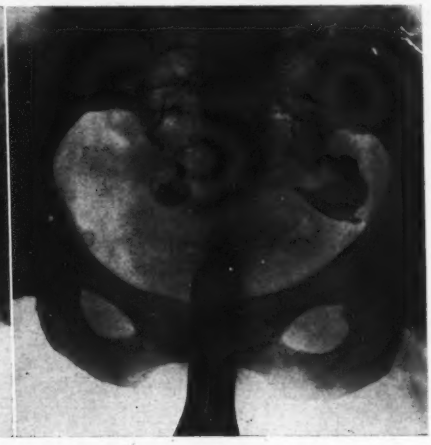

FIG. 7. Fimbrial occlusion of the tubes with hydrosalpinx.

DISCUSSION

In a review of American literature, only 1 other death following uterosalpingography was found. That was reported by Feiner[4] in 1942, the result of generalized peritonitis fourteen days after the test. He cited 8 other deaths that had been reported in Europe by Gauss and Schultz but the exact circumstances of these could not be learned since the articles are not available.

There have been a number of published cases of intravasation of iodized oil into the pelvic veins but in most instances no ill effect resulted. It was observed 18 times by Robins and Shapira[8] in a series of 1,000 uterosalpingograms, and the only aftermath was a slight leukocytosis. In 1930 Witwer and his associates[13] reported 2 cases and suggested an abnormal permeability of the endometrium as the cause. Meaker[6] in 1934 reviewed 10 cases from the literature along with 1 of his own and mentioned two possible explanations: first, a dissolution in the continuity of the endometrium; second, ex-

cessive pressure forcing the medium through the epithelial layer. In his case a pressure of 300 mm. of mercury had been used. Such an explanation would appear logical but several writers have shown that this is not al-

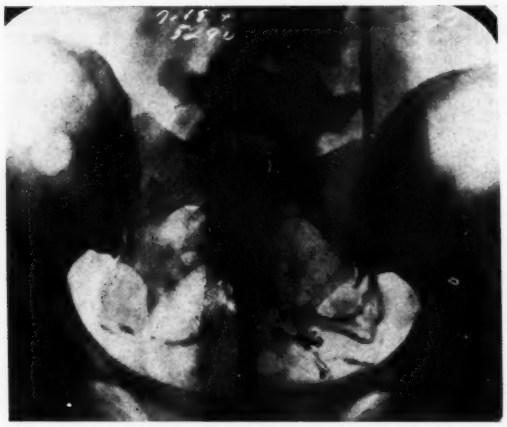

FIG. 8. Extensive intravasation of radiopaque medium into the uterine bed and pelvic veins which produced no symptoms other than a slight cough.

ways true. In one of Witwer's cases intravasation occurred at a low manometric pressure. Other examples have been reported

4 cc.) which was slowly injected in the cubital vein. Through roentgen studies they found that the substance rapidly reached the pulmonary capillaries in small droplets and was completely absorbed within ten minutes. The patient had no symptoms other than a slight cough.

Walther[12] in 1939 studied the same problem by means of animal experimentation and found that the iodized oil was split into its principal substances of iodine and oil within the pulmonary capillaries. The former was excreted as potassium iodide through the kidneys in six to eight days. The oil was removed by blood lipases and by absorption of the lung tissue cells which contained it.

In a recent survey of techniques used by various gynecologists, Eisen and Goldstein[3] found that the majority used 4 to 8 cc. of iodized medium for uterosalpingography. Some used as much as 20 cc. for a single injection. They concluded that the amount of material used had no bearing on intravasation but when it occurred, the resulting symptoms varied directly with the volume which reached the blood stream. Their report included a case of extensive venous intravasation where 15 cc. of lipiodol was used. Pulmonary complications resulted in the form of emboli with pneumonitis and actual in-

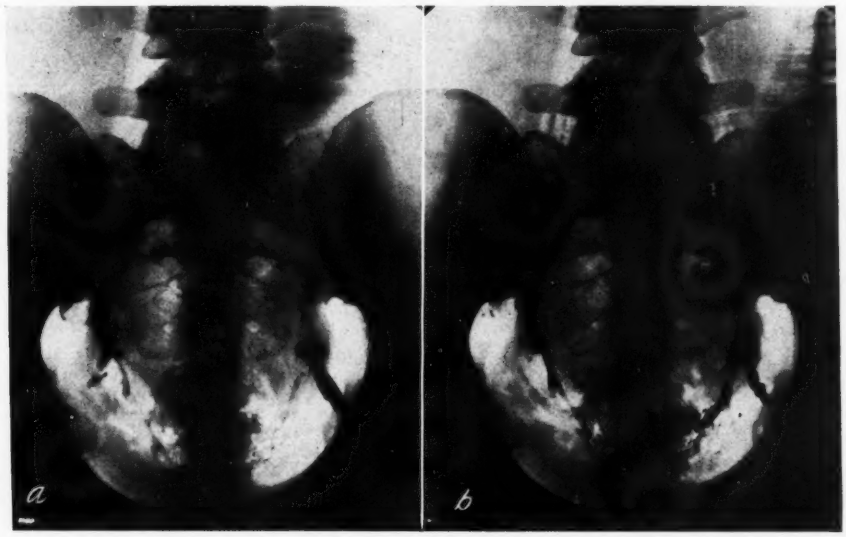

FIG. 9. Stereoscopic films of a case of fatal intravasation of the opaque media taken approximately 30 seconds apart; *a* shows the material filling numerous small veins throughout the uterine wall and the large veins laterally; *b* shows further distention of the vessels with the lipoiodine coursing upward.

which lend strength to the theory of increased permeability of the uterine vessels.

As an experiment, Sicard and Forrestier[11] in 1923 observed the results of lipiodol (2 to

farction. The patient recovered within a month.

A similar accident was reported by Roblee and Moore[9] in which intravasation was pro-

duced when 9 cc. of lipiodol was used at a pressure of 140 to 150 mm. of mercury. Approximately 5 cc. of the material entered the venous system. Pulmonary emboli were demonstrated shortly thereafter but the patient developed no symptoms other than a mild cough and slight hemoptysis. Most of the oil had disappeared from the lung fields within twelve days.

In evaluating the case which has been presented, the cause of death remains a matter of speculation. Intravasation did not occur with the first hysterogram and the pressure used during the second was, if anything, considerably less. The reason for using as much as 12 cc. of lipiodine during the last study was the ease with which it entered the uterine cavity. It would seem likely that this accident was produced through injury to the cervical canal by the canula, or that the anesthetic played some role. Admittedly, anesthesia is seldom, if ever, indicated for such a procedure. Both tests were done during the first week following menstruation; therefore, the state of the endometrium should have been essentially the same each time.

The possibility of a fatal embolus was fairly well ruled out by postmortem roentgen studies showing the lung fields and brain to be entirely free of any demonstrable foreign material.

The most probable cause of death would seem to be a sudden reaction to the iodized oil. Although she had no symptoms from the first injection, it may have sensitized the patient to such an extent that the second amount proved fatal when it reached the blood stream.

CONCLUSIONS

1. The use of uterosalpingography has been shown by numerous investigators to be a valuable aid in the diagnosis of many obscure problems encountered in gynecological practice. Some of its uses have been demonstrated in this presentation.

2. The contrast medium should be injected slowly and the amount limited to the minimum quantity necessary to demonstrate the pathologic condition usually 5 to 6 cc.

3. Anesthesia is rarely if ever indicated, and should be avoided.

4. It is a procedure which should not be considered as entirely safe and harmless, as some writers have suggested, since it entails a definite morbidity and mortality hazard, even though relatively small.

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1601 Calhoun Avenue.

X-RAY EXPOSURE METERS AND AUTOMATIC EXPOSURE TIMERS

L. M. GARRETT, M. D.
CORPUS CHRISTI, TEXAS

This paper will describe x-ray exposure meters and automatic exposure timers, not so much from the standpoint of their clinical use, but from the fundamental physical and electrical principles underlying the function of these two types of apparatus. Practicing roentgenologists today have so much clinical medicine to learn that they do not have the time to go into the electronic background of such instruments. These fundamentals will be explained as simply as possible.

The importance of correct exposure of x-ray films is obvious to any roentgenologist. Estimation of diagnostic x-ray exposure is made usually by measuring the thickness of the anatomical part under consideration and by adjusting the time or kilovoltage according to a chart. However, x-ray exposure is influenced not only by the thickness of the part but also by its density, which varies widely under normal and pathologic conditions. For example, an adipose woman may measure the same as a very muscular man; yet the density of the man's tissue will be much greater than the woman's. It has been the mark of a good technician to judge correctly such differences in tissue density, but at times even the best technician fails to do so properly.

If the effective intensity of x-ray radiation that is received at the plane of the film after it has traversed an anatomical part could be precisely measured, it would be a very simple

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matter to calculate the proper exposure time. If an instrument could be devised in which a meter actually registers such x-ray intensity, the reading of this meter could be converted easily to a setting of either time or kilovoltage, or both, that would assure a proper exposure of the film. Such a device would be an x-ray exposure meter. Several such exposure meters were produced commercially on the European continent before the war. These instruments were rather low in sensitivity and were not very stable. It remained for Morgan in this country to design the first successful, sensitive, and easily used x-ray exposure meter. Morgan has not only perfected this type of instrument, but has also designed a very successful automatic exposure timer.

It should be pointed out that there is quite a difference between these two instruments. An x-ray exposure meter is a device used to measure the intensity of radiation after it has passed through an anatomical part. The instrument is placed in relation to the patient in the same plane the x-ray film would be normally, and then a test exposure is made. The intensity of roentgen rays falling on the plane of the film is indicated on a meter dial, and the settings of the x-ray machine are made from the readings on this dial. This type of meter is similar in function to the ordinary photographic exposure meter used to determine settings for a camera. This latter instrument is aimed at the scene to be photographed, and the intensity of light coming from the scene is indicated on a meter, thus determining the proper exposure for setting the camera shutter and diaphragm.

The use of the x-ray exposure meter calls for one preliminary trial exposure to ascertain the correct setting of the x-ray machine for making the actual roentgenogram. The automatic exposure timer developed by Morgan does not require this preliminary exposure. Morgan's device measures the amount of x-ray that passes through the patient, casette, and film, and it stops the exposure after a proper amount has reached the film, thereby replacing the mechanical or electrical timer commonly in use now.

The fundamentals underlying the x-ray exposure meter will be considered first. This instrument is composed of comparatively simple elements. Its construction is complicated moderately by the fact that one is dealing with extremely small currents and a great amount of amplification is necessary to make these currents readable on a simple rugged meter. Its fundamental parts are a fluoroscopic screen, a photoelectric cell, a direct current amplifier, and a microammeter.

A photoelectric cell is an electronic vacuum tube, containing a cathode and an anode. The cathode, which is usually a large curved surface in the typical photoelectric cell, is covered with a complex coating which emits electrons when struck by photons of light. This function is similar to the cathode in an x-ray tube, which produces electrons when the filament is heated by an electrical current. These electrons are collected on the anode, which is usually a small cylindrical post or wire, placed at approximately the focus of the curved cathode. Just as in an ordinary x-ray tube, it is necessary to have a positive potential on this anode to draw the electrons from the cathode. This positive voltage, however, instead of being many thousand volts, as in an x-ray tube, is only a few volts. In the high vacuum type of photoelectric cell, the voltage may be as low as 15 volts or even less. The number of electrons displaced from the cathode is directly proportional to the intensity of the light falling on the sensitive surface. Therefore the current flowing through a cell will be directly proportional to the intensity of light illuminating the cell. This holds true over rather wide ranges of light intensity.

The sensitive cathode coating on different cells responds to different spectra of light, and the maximum sensitivity of a cell can be placed almost anywhere in the spectrum from the near infrared through visible light to the near ultraviolet by selecting the proper cathode coating. Until the type 929 photoelectric cell was developed with a cathode highly sensitive to blue light, no photoelectric cell would give a sufficient response to the illumination from a fluoroscopic screen to be used satisfactorily in an x-ray exposure meter. The current produced was so small that an amplifier to make it readable was unstable. The 929 photoelectric cell, however, has its maximum sensitivity in the spectral region where intensifying screens fluoresce. It also has a spectral sensitivity curve that parallels closely the curve of ordinary x-ray film. Even then, the amount of current produced by this cell is very minute when illuminated by a fluoroscopic screen, activated by the small amount of roentgen rays that have passed through the patient's body. This current is too small to be measured by any instrument except an extremely sensitive galvanometer. Such an instrument is impractical for use in the ordinary x-ray laboratory, and for practical use this current must be amplified by a direct current amplifier.

The subject of direct current x-ray amplifiers is an extensive one. The principle by which most highly sensitive direct vacuum tube amplifiers work is the utilization of the voltage drop that a small current will produce

across a grid resistance of extremely high value. This voltage drop is impressed on the grid of the amplifier tube, thereby effecting large changes in the plate current of the tube.

According to Ohm's law, the voltage drop across a resister is equal to the current multiplied by the resistance, the current being expressed in amperes and the resistance in ohms; thus, for example, if 1 milliampere (1/1,000 of an ampere) of current flows through a resistance of 1,000 ohms, the voltage drop will be 1 volt. If 1 microampere (1/1,000,000 of an ampere) flows across a resister of this value, the drop will be only 1/1,000 of a volt. The current produced by a photoelectric cell excited by the light from a fluoroscopic screen is in the order of 1/1,000 of a microampere. To produce sufficient voltage drop to activate the grid of an amplifier tube, it is necessary that this current flow through a resister of extremely high value. The resisters that are used in direct current amplifiers to measure small currents, therefore, range in value from around 100,000,000 ohms to a thousand thousand million ohms. It can be seen that if a current of 1 billionth of an ampere flows across a resistance of 1 billion ohms, the voltage drop will be 1 volt. A change of 1 volt on the grid of a vacuum amplifier tube can cause a marked change in its plate current.

A typical vacuum amplifier tube is a triode, or one that contains three elements—a filament, a grid, and a plate. The filament is heated by an electrical current and throws off electrons. The plate of the tube is charged with a positive voltage which will draw these electrons to it, thereby creating a flow of current. The grid is located between the filament and the plate. If a negative charge is placed on this grid, it will tend to repel the negatively charged electrons flowing from the filament to the plate, thereby reducing the flow of current. The amount of reduction in flow varies with the degree of negative potential on this grid, and small changes in this potential alter greatly the plate current.

An ordinary vacuum tube cannot be used very satisfactorily in direct current amplifiers for minute currents because there is a considerable flow of current through the grid itself. This current is caused by collection on the grid not only of electrons but also of positive ions, which normally exist in the average vacuum tube. This current is unimportant in the ordinary application of vacuum tubes, but if the resistance in the grid circuit amounts to a thousand or more megohms, it will cause a marked voltage drop across this resister, thereby affecting the grid bias. Hence, in order to measure the minute current flowing from photoelectric cells, it is not only necessary to have a very high value grid resister in the vacuum tube circuit, but also to have a vacuum tube that draws a very minimal amount of grid current. Such tubes are known as electrometer tubes. Low grid current is achieved in electrometer tubes by special physical construction and by use of low voltages on the electrodes. The usual plate voltage is from 6 to 12 volts.

The next part of the exposure meter is the recording meter itself. This usually is an ordinary microammeter with a full scale range of 50 to 200 amperes, depending on the amplifier tube. The meter is inserted in the plate circuit of the amplifying tube. The plate current, even in an electrometer tube, may be as high as 500 microamperes, which is several times the amount of current that this meter will carry. To use a microammeter in the plate circuit of such an amplifier, it is necessary to use a bucking current across the meter. This is done by means of a battery and a variable resister, which are shunted across the meter in such a fashion that the current from the battery through the resistance flows through the microammeter in a direction opposite to the flow of plate current. By adjusting the variable resister, the meter current can be "bucked" back to zero, even though a current of 3 or 4 milliamperes is flowing in the plate circuit. A small change in the grid potential of the tube will then give a large degree of registration on the microammeter.

It is necessary to have a sensitivity control in the x-ray exposure meter, which is best accomplished by shunting a variable resister across the microammeter itself. This shunt will increase or decrease the sensitivity of the meter by rotation of the control knob of the variable resister. The resister control can be calibrated for different sensitivities to meet varying conditions encountered in the actual use of the meter, such as variation in speed of screen, of film, and of changes in developing solution.

The last part, and one of the most important, of the exposure meter is the flouroscopic screen. Roentgen rays directly affect photoelectric cells only to a very small extent. It is therefore necessary to convert the energy of roentgen rays into some form of radiant energy to which the photoelectric cell is sensitive. Morgan showed in a series of experiments that the Patterson Type B fluoroscopic screen was not only the most efficient in converting roentgen rays into blue light, but also that this screen, when used to activate a 929 photocell, had a sensitivity to roentgen rays that paralleled that of x-ray film exposed with intensifying screens. A

slight difference between the sensitivity of Patterson B screen to different kilovoltages from that of x-ray film can be corrected by the addition of 0.5 mm. of aluminum filter between the fluoroscopic screen and the anatomical part of the patient. For use with nonscreen films a fluorozure screen must be employed.

The complete exposure meter therefore works as follows: The fluoroscopic screen of the x-ray exposure meter is placed in the plane to be occupied later by the film. The patient is placed as though an actual x-ray exposure were to be made, and a trial exposure is made with a predetermined standard kilovoltage, milliamperage, and time. With the x-ray exposure meter I use, the test setting for a chest plate is approximately 50 kilovolts, 200 milliamperes, .2 of a second at six feet. An exposure is then made. This causes a fluorescence of the screen. The light from the screen impinging on the photoelectric cell causes a minute current to flow across the grid resister of the electrometer tube. This minute current, flowing across the high grid resistance, will produce a voltage drop of several tenths of a volt. This drop will make the grid of the electrometer tube more positive by that amount. This change in grid voltage will cause a large variance in the plate current, which will be read on the microammeter.

The meter is calibrated for actual use by trial exposures. The type of exposure meter mentioned has been rendered somewhat obsolete by the introduction of a new type of photocell, known as a multiplier photocell. This cell has obviated the necessity for an electrometer tube with its somewhat unfavorable characteristics. The principle of the new photocell is as follows: The tube consists of a sensitive photoelectric cathode sealed in the same envelope with an electronic multiplier arrangement. This consists of a series of anodes or dynodes arranged obliquely with reference to each other so that when an electron is freed from one dynode, it is drawn to the adjacent dynode at rather high velocity. The first dynode of this multiplier system faces the photosensitive cathode and has a positive potential of 50 to 100 in relation to it. When one electron is removed from the photosensitive surface by a photon of light, this electron is drawn to the adjacent dynode by the reasonably high potential existing between the dynode and cathode. The electrode is accelerated to a considerable velocity, and when it strikes the dynode it causes the emission of several secondary electrons from the dynode itself. These several electrons are drawn then to the next succeeding dynode, which is charged with a potential of 50 to 100 volts higher than the first. Each one of the electrons as it reaches the second dynode will in turn dislodge several more secondary electrons. These electrons are then drawn on to the third dynode by the same difference of potential as exists between the first and second dynodes. In this way, with each electron producing several secondary electrons when it strikes the next succeeding dynode, one electron that leaves the photosensitive cathode is multiplied to many hundred thousand electrons by the time it reaches the final electrode. Various type cells have from six to twelve of these accelerating dynodes. The best known of the multiplier photocells is the R.C.A. 931, which has nine anodes. This tube when used with 100 volts on each anode has an amplification factor of around 200,000. It is very stable and can be made to produce a high current output when used in simple circuits. It is not available to the general public as yet, but it should be within a few years.

Although the x-ray exposure meter described is a valuable instrument and still has many uses in radiology, it is not as important as the automatic exposure meter developed by Morgan. This instrument requires no trial exposure and actually terminates the exposure to an x-ray film after the correct amount of roentgen rays have reached it. The basic vacuum tube around which the timer is built is the multiplier phototube already described. The phototimer circuit includes the following component parts: A fluoroscopic screen, a multiplier phototube with power supply, a thyratron vacuum tube, and various relays. The fluoroscopic screen, along with the multiplier phototube, is mounted behind the film casette and therefore receives radiation after it has passed through the patient and through the casette. The filtration produced by the casette with its films and screens changes the quality of the rays which strike the fluoroscopic screen of the timer unit. It was found by Morgan that the Patterson type B screen was not satisfactory for use with this timer because of the filtration effect but that a fluorazure type screen did give a proper response.

The next component part of the timer to be considered is the thyratron, or gas-filled vacuum tube. This is quite different from the ordinary radio tube and is primarily designed to carry large amounts of current. There are many varieties of thyratons filled with various gases under low pressure. This pressure, however, is much higher than in the ordinary vacuum tube. The gas will ionize under certain conditions and, because

of this ionization, can carry large amounts of current between the electrodes of the tube. The cathode of this tube differs somewhat from the one in ordinary radio tubes in that it is designed to give off much larger numbers of electrons.

The tube works as follows: If the grid is biased quite heavily negative and a moderate potential is applied between the cathode and anode, no current will flow. If the grid is gradually made more positive, at a certain point a few electrons will flow from the cathode to the anode. These electrons develop considerable kinetic energy as they are accelerated by the voltage on the plate, and in traversing the space between the filament and plate they will strike molecules of the gas in the tube. When one of these electrons strikes a molecule of gas it will displace an electron from the molecule, thereby ionizing the molecule. The displaced electron becomes the negative ion, and the remainder of the molecule becomes the positive ion. The displaced electron, or negative ion, is then drawn toward the positively charged plate. The heavier positive ion is drawn toward the negatively charged cathode. Each one of these ions, in traveling to its respective electrodes, will strike other molecules of gas and ionize them. The process described occurs very rapidly, and within a few microseconds a tremendous number of ions are formed; these ions, traveling to their respective electrodes, carry the current across the tube. The beginning of the discharge is called "firing" the tube. After the tube is fired, it will continue to carry current, regardless of the charge on the grid, until the voltage on the electrodes drops below a certain point, at which time the discharge is extinguished.

In the usual circuit, the tube is activated by an alternating current so that the plate is positive for one hundred twentieth of a second and in the next one hundred twentieth of a second it is negative. The tube will carry current during the period the plate is positive, but during the next period, when the plate is negative, no current will flow. If during this phase the grid becomes sufficiently negative, no current will flow when the plate becomes positive again. There is only a small flow of current in the grid circuit; thus in a thyratron tube only a small amount of power on the grid can control a great amount of power in the cathode plate circuit.

In the automatic exposure timer, the grid of the thyratron is connected to a condenser, and both are charged continuously to a certain negative potential. When the x-ray exposure is made, a relay disconnects the charging current from the grid and its condenser. Ordinarily the charge on this condenser would leak away slowly, and eventually the grid of the tube would become positive enough for the tube to fire. Usually this leakage would take place over a period of several seconds. In the phototimer, however, the condenser is discharged much sooner than this by the flow of current through the photoelectric cell. The cell starts to conduct current as soon as the x-ray exposure starts. The magnitude of current flow and, therefore, the rapidity of the discharge of the condenser depend upon the intensity of illumination of the fluoroscopic screen. After a certain amount of discharge through the photoelectric cell, the potential of the condenser and, therefore, the grid, become positive enough that the thyratron tube will fire. The current through the thyraton tube is heavy enough to operate a husky relay which opens the x-ray exposure circuit, thereby terminating the exposure.

The actual construction of the photoelectric timer is much more complicated than the simple circuit described. To date the most important application of photoelectric timers has been in radiography of the chest, particularly in mass radiography. The efficacy of the photoelectric timer has reached its maximum, however, in photoroentgenography. In this application, the photocell is not mounted behind the film as it is in conventional radiography, but in the hood of the photoroentgen camera in such a manner that a small lens focuses an image of a portion of the intensifying screen on the sensitive surface of the cell.

Morgan has pointed out that if exposures are exact enough, wide variations in kilovoltage may be used for radiography of the same part with relatively little difference in the appearance of the finished film. In photoroentgenography, an arbitrary kilovoltage of 80 to 90 kilovolts, for instance, is selected and all exposures are made at that kilovoltage. The photoelectric cell then adjusts the time of the exposure until the proper film density is obtained. It is amazing to view a large number of these fluorographic films made on subjects of varying size and see how nearly alike large strips of film will appear. This marked homogeneity of exposure density makes reading of photoroentgen films much easier than when there is rather wide variation in the density of the films.

I have had no experience with the use of the phototimer in parts of the body other than the chest. Morgan has described such an instrument, but just how well this works I do not know.

SUMMARY AND CONCLUSION

The fundamental principles underlying the functioning of x-ray exposure meters and

automatic x-ray exposure timers have been outlined. Some of the uses of these instruments have been discussed, and the value of automatic exposure control in photoroentgenography, in particular, has been stressed.

X-ray exposure meters and automatic x-ray exposure timers represent a distinct advance in the technique of roentgenology.

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612 Medical Professional Bldg.

PROBLEMS OF CONGENITAL CATARACTS

HENRY L. HILGARTNER, M. D., F. A. C. S.
AUSTIN, TEXAS

The Texas School for the Blind is the assembly point for all the blind, or partially sighted, children in Texas between the ages of 6 and 21 years. Here these children are educated and rehabilitated as much as possible by surgical and medical means. The cataract group of children has to be divided into three classes: (1) those who have been unsuccessfully operated on for congenital cataracts prior to their entry into the school; (2) those who have had surgery prior to entry but on whom more surgery is necessary in order to improve their vision; and (3) those who have had no surgery.

I have had the opportunity of observing these cases for nearly twenty years, and my purpose in this paper is to discuss briefly the various types of complications found in the children who have had surgery prior to admission to the Texas School for the Blind; to conjecture on the reasons for these complications; and to present briefly the plan or procedure which has been used successfully in the school.

At the present time there are 30 to 35 children with juvenile cataracts (congenital) in the school; that includes all the groups mentioned above. I shall now take up the first group—those who have developed complications following surgery prior to their admission into the school. I know of no condition that has caused more heartaches to some of the best ophthalmic surgeons in this part of the country than a few of these cases of congenital cataracts. It has also been my experience and observation that the number of cases that each ophthalmologist sees each year in his private practice is small. The over-all number of cases in the school confirms this observation. I think that the surgical procedure being so simple is another cause for the bad results; the cases are just not taken seriously enough.

The cases where the pupil is very eccentric as a result either of posterior adhesions to the remnant lens capsule, or anterior synechia caused by incarceration of the iris in the corneal wound are quite common. The eccentricity of the pupil, provided that there has been no serious other complications like uveitis, is no tremendous reason for worry. Surgery can correct many of these defects, or, if there is a clear pupil, it is wiser to leave them alone.

We frequently see cases in which the pupil is round and dilates freely and widely, but there is a dense piece of lens capsule with some cortex in the center of the pupil. A linear incision through the cornea at the limbus and a pair of iris forceps will remedy this situation. It might be wiser in some cases to do an iridectomy prior to grasping the capsule, because there might be adhesions between iris and capsule which cannot be seen. It is imperative that gentleness be the keyword.

The above mentioned complications are not particularly serious. They can happen without the patient's losing his eye. However, when the patient develops an acute glaucoma because the lens substance swells too much after a discission, it is imperative that a linear incision be done immediately, that the soft substance be washed out and as much of the capsule be withdrawn as possible.

We see cases where the tension does not become elevated but the patient develops a severe uveitis. If the lens substance is allowed to remain, the eye is frequently lost. In these cases the iris may or may not become bound down completely, with little or no pupil, or the eye may develop a hypotension and ultimately lose all sense of light perception. When this stage has developed, the globe may just become atrophic, or it may shrivel up until there is a pthisis bulbi.

One other serious complication following a severe uveitis is a hypertension with a staphyloma of choroid and sclera developing. These cases are distressing because the patient is not only blind, but also has a misshapen eyeball which gives a bad cosmetic appearance.

What are the reasons behind these complications?

1. I think that one of the main reasons is that the parents of these children are not financially able in many instances to permit the patient to remain in the hospital for a

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sufficient period of time. These patients should be kept quiet and under observation in a hospital for ten days to two weeks at least and frequently much longer. That prerequisite is difficult for the average family. The period of observation postoperatively is much longer.

2. The young eye is treated in the same fashion as the adult eye, that is, the same procedure is used as in expressing a senile cataract. That is very dangerous, and it should not be done.

3. The use of a general anesthetic is necessary for small infants and refractory young children, though we never use it at the school. All discissions are done under 5 per cent cocaine anesthesia. Our results under local anesthesia have been excellent.

4. The pupil may not have dilated adequately, and therefore when the soft substance of the cortex begins to swell, increased pressure develops. Further surgery is imperative. If the pupil does not dilate well, an iridectomy should be done first, the eye allowed to heal, and a discission performed later.

5. A very common procedure and one that is frequently advocated is that a large, deep incision be made through the capsule at the time of the initial operation. This incision may be cruciate, or any shape that the operator desires, but the result is that the cortex swells so rapidly the aqueous humor cannot carry it away fast enough, and a severe uveitis plus increased tension develops.

6. The one procedure that I think is reprehensible and that is done not infrequently, if our records are correct, is for the surgeon to operate on both eyes simultaneously. I think that is the one procedure which cannot be excused. It is very dangerous and both eyes may be lost. This point cannot be stressed too emphatically.

Now I shall outline briefly the procedures used in some 75 cases that have been operated on in the Texas School for the Blind.

First of all, when shall the operation for cataract be performed? If the patient is an infant, with large dense, diffuse lens changes, it is wise to operate early, but a small incision through the lens capsule should be made the first time. If the opacity of the lens is small, with plenty of clear lens substance, it is better to wait a few years before operating.

If there is a dense capsule remaining after a conservative incision through the capsule, a linear incision should be made at 12 o'clock through the limbus. An iridectomy should be performed first, then the lens capsule pulled out with an iris forceps. If the child has previously been operated on and there is a very dense capsule with iritic adhesions, a capsulotomy may be done.

In the case of a patient who has never been operated on before, we anesthetize the eye with 5 per cent cocaine hydrochloride after the pupil has been widely dilated with atropine. The capsulotome is then introduced through the outer one-third of the cornea, and a cruciate incision is made. The size and length of the incision both in the horizontal and vertical planes depends on (1) the width of the pupillary dilation, and (2) the type of the cataract. The soft cortical opacity gets the smaller incision, as the aqueous humor causes too much swelling and inflammation. If the tension becomes elevated, a linear incision is made and the lens contents are washed out with normal saline solution. An iridectomy may be done at this time if necessary. However, we advocate doing as little surgery as possible, handling and manipulating the eye as gently as possible. Following the operation, 1 per cent atropine is instilled and both eyes are dressed. The dressings are kept on both eyes for three or four days, longer if necessary. One per cent atropine is instilled three times daily beginning the day following the surgery. The patient is confined to the hospital ten days to two weeks.

202 West Thirteenth Street.

ABSTRACT OF DISCUSSIONS

Dr. A. E. Jackson, Fort Worth: Because of his connection with the Texas School for the Blind for a number of years, Dr. Hilgartner has had the unusual opportunity of observing these unfortunate blind children and has brought us a valuable composite picture of his observations and, incidentally, probably has accounted for some of the patients we have operated on and have lost sight of. The problems to be encountered in the management of congenital cataracts are many and varied depending upon the type and degree of the capacity, the age when first seen, whether unilateral or bilateral, and development of the child. Unfortunately, my limited experience indicates that a number of these children have other congenital defects, that is, subnormal mentality and development. It is this type in which the ophthalmologist needs the assistance of the pediatrician and neurologist and he should always give a guarded prognosis, for stranger things have happened in medicine than blaming the imbecility of a child on the cataract operation.

A baby born blind from congenital cataracts is usually not suspected by parents until the age of 4 to 6 months when the parents or toys are not recognized. Since vision is an essential of normal mental development, it is my custom to begin discission soon after the first birthday, one at a time under ether anesthesia, only after the pediatrician has ruled there is no evidence of a persistent thymus. Because of the inconvenience to the mother, I have never deemed it necessary to hospitalize these patients over three to four days but keep them under constant supervision and return them to the hospital if the tension rises. The most common complication in my experience has been an eccentric pupil which is probably the result of the limbal puncture. I plan in the next case to make the puncture

within the cornea—1 to 2 mm. inside the limbus—and hope to avoid this complication.

In those patients 5 years of age or over who out of necessity have been delayed in their normal development, it occurs to me that a linear extraction within the cornea under general anesthesia and an irrigation of the anterior chamber after capsulotomy will hasten the restoration of sight and the delayed development of the child. It has been my experience that these patients seldom have a vision approaching normal, but in a large majority there results a vision sufficient for school study and an independence of adult life which is a great improvement on what nature gave them in the beginning.

Dr. Dan Brannin, Dallas: Dr. Hilgartner, with his extensive experience, has, I am sure, treated surgically more cases of congenital cataract than I have ever seen. I therefore feel some hesitancy in discussing his paper. There are, however, four points that I would like to stress:

1. I believe that the earlier these patients are operated on, the better the chance is for the development of useful vision. The macula is not fully developed until approximately six months after birth. The sooner it is trained by use, the better chance there is for vision.

2. Where there is a dense capsule remain, it seems to me that an iridotomy using DeWecker scissors produces less traumatism and less danger of uveitis than does removal of this capsule with forceps, regardless of how gentle the manipulation.

3. Dr. Hilgartner advises the immediate emptying of the anterior chamber in the event of a secondary glaucoma following the discission. Twice in my experience I have had suprarenin bitartrate control the rise in tension without further surgical interference. It would seem to me that it might be well to try this for twenty-four hours before resorting to additional surgery.

4. I would like to emphasize Dr. Hilgartner's point that the after care and follow-up on these cases should be continued until all the lens material is entirely absorbed and the eye is quiet. Failure to keep these eyes atropinized postoperatively for a sufficient period of time I am sure accounts for some poor results.

Dr. Ray K. Daily, Houston: Dr. Hilgartner has outlined very well indeed the management of congenital cataract. There is one point, however, that he has not brought out: a good organic surgical result may frequently be associated with disappointing vision. The reason for this lies in the congenitally poor function of many of these eyes, which is not corrected by the removal of the cataract. Technically surgery of congenital cataract is not difficult. But the degree of preoperative function which determines the final visual acuity in infants is very difficult to determine. The prognosis for good postoperative visual acuity depends to a great extent on whether the cataract at birth is so dense that all visual function is excluded or is partial, so that the impairment of vision does not interfere with the development of orientation. The prognosis for good visual acuity in partial or incomplete cataract is good; for dense cataracts, poor. Infants with dense cataracts develop an amblyopia exanopsia which may become irreversible; they should therefore be operated on early, long before the age when they get to the School for the Blind. These eyes with infantile cataract, however, stand surgery very poorly, and so the simpler the surgery the better the prognosis for a normal postoperative course. A frequent cause of poor postoperative vision in the dense cataract is the almost always existing nystagmus, which does not disappear even after an excellent operation. After the third year of life linear extraction is the operation of choice. In children with partial cataract, surgery might best be delayed until school age; they have enough vision to prevent the development of amblyopia exanopsia, and too early an operation, particularly a discission, carries with it the risk of amblyopia. After a discission, until the swollen lens masses are absorbed, the lens is more opaque than before the operation, and if the opacity persists for a long time the anopsia may give rise to an amblyopia, which is difficult to cure. In such cases it is probably best to postpone surgery until the child has grown beyond the amblyopiogenic age, which is 6 or 7. Since Dr. Hilgartner probably gets the children about that age his functional results should be better than that of the children operated on earlier in infancy. The better functional results, however, are caused not by the surgical management but by the physiologic factors which make the prognosis better for older children.

Dr. Everett L. Goar, Houston: Dr. Hilgartner does not distinguish between congenital cataracts in regard to etiology. The type that is apparently caused by intra-uterine inflammation, in which the iris is attached to the cataractous lens by dense adhesions, will not react favorably to any operation. Inflammation and fibrosis follow each operation and the result is either hydrophthalmos or atrophy. This condition is not to be confused with retralental fibroplasia which is no less hopeless.

Since adopting the Zeigler method of cutting anterior and posterior capsule with the needle knife, I have had no secondary glaucoma to follow discission of soft cataracts. This allows the swollen lens to expand backward as well as forward and in my opinion renders the operation safer and prevents repeated discissions.

TUBERCULOSIS COMMITTEES MEET JOINTLY

The Tuberculosis Committee of the State Medical Association and the Executive Committee of the Texas Tuberculosis Association held a joint meeting in Austin, December 15, following a meeting of the board of directors of the Tuberculosis Association. Dr. C. M. Hendricks, El Paso, chairman of the State Medical Association committee, presided.

Dr. Hendricks suggested that the two committees meet regularly on the dates of the quarterly board meetings of the Texas Tuberculosis Association. It was pointed out that with one exception, all members of the State Medical Association committee are also members of the board of the State Tuberculosis Association and that joint meetings would give the members of each group a clear picture of what is going on in tuberculosis control. Dr. Hendricks suggested additional coöperation by means of mutual exchange of data pertinent to statewide tuberculosis control.

Following a presentation of an outline of the objectives of the State Medical Association Tuberculosis Committee, current instruction on tuberculosis given in medical schools was discussed, the consensus being that the program should be expanded. Conditions at the Kerrville Sanatorium were then considered, and it was agreed that a joint committee, appointed at the meeting, would visit the Kerrville Sanatorium and later the State Sanatorium to report and make recommendations to the State Board of Control prior to the convening of the Fiftieth Legislature. A bill providing for establishment of two district sanatoriums, to be introduced in the Legislature, was discussed in detail.

Dr. Howard E. Smith, director of the Tuberculosis Control Division, State Health Department, gave a resume of the biennial report which he had submitted with the Health Department report to the Board of Control.

MEMBERS OF THE FIFTIETH TEXAS LEGISLATURE

The names of Senators and Representatives in the Fiftieth Legislature of Texas are listed below by districts for the convenience of those who wish to contact them in connection with the current legislative program of the State Medical Association and of other groups interested in improving health conditions in the state.

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8.	A. M. Aikin, Jr.	Paris
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	Sidney McClain	Sherman
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47.	Wayne W. Waggonseller	Fruitland
48.	L. C. Slimp, Jr.	Decatur
49.	Robert Hal Jackson	Denton
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95.	Lamar Zivley	Temple
96f.	Sam C. Sellers	Waco
97.	Gordon Davis	Waco
	J. K. Aynesworth	Waco
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104.	W. E. Heatly	DeLeon
105.	J. W. (Bill) Shannon	Stephenville
106.	T. M. Collie	Eastland
107f.	L. R. Pearson	Ranger
108.	Jack Cox	Breckenridge
109.	N. F. (Dick) Smith	Jacksboro
110.	Jimmy P. Horany	Archer City
111.	C. M. McFarland	Wichita Falls
	Vernon McDaniel	Wichita Falls
112f.	Leslie King	Harrold
113.	Charles M. Conner	Haskell
114.	Claude Calloway	Crowell
115.	William B. Teague	Anson
116.	W. K. (Bill) Tippen	Abilene
117.	Harley Sadler	Sweetwater
118.	Sterling Williams	Snyder
119.	Preston E. Smith	Lubbock
120.	I. B. Holt	Olton
121.	Sheffy Mahan	Childress
122.	R. L. Templeton	Wellington
123.	J. Blake Timmons	Amarillo
124.	William J. (Bill) Craig	Miami
125.	Charles L. South	Coleman
126f.	Joe W. Gandy	Winnsboro
127.	Harry Whitworth	Smithville

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Dallas, May 5-8, 1947. Dr. C. C. Cody, Jr., Houston, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, Atlantic City, N. J., June 9-13, 1947. Dr. Harrison H. Shoulders, Nashville, Tenn., President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

Southern Medical Association, November, 1947. Dr. E. L. Henderson, Louisville, Ky., President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southwest Allergy Forum, Shreveport, La., March 31-April 1, 1947. Dr. W. H. Browning, Shreveport, La., President; Dr. Sim Hulsey, Medical Arts Bldg., Fort Worth, Secretary.

Texas Association of Medical Anesthetists, Dallas, May 5, 1947. Dr. Claudia Potter, Temple, President; Dr. Russell Bonham, Box 6237, Houston, Secretary.

Texas Association of Obstetricians and Gynecologists, Fort Worth, November, 1947. Dr. J. E. Kanatser, Wichita Falls, President; Dr. Julius McIver, 714 Medical Arts Building, Dallas, Secretary.

Texas Chapter, American College of Chest Physicians, May 5, 1947. Dr. R. G. McCorkle, San Antonio, President; Dr. Elliott Mendenhall, 1217 Medical Arts Bldg., Dallas, Secretary.

Texas Club of Internists. Dr. Alvis E. Greer, Houston, President; Dr. Julian C. Barton, 414 Navarro St., San Antonio, Secretary.

Texas Hospital Association, Houston, March 27-29, 1947. Tol Terrell, Harris Memorial Methodist Hospital, Fort Worth, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association, Dallas, May 5, 1947. Dr. Fred T. Rogers, Dallas, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Orthopedic Society. Dr. E. A. Cayo, San Antonio, President; Dr. Edward Smith, 1215 Walker Ave., Houston, Secretary.

Texas Pediatric Society, Houston, October, 1947. Dr. J. R. Lemmon, Amarillo, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, Dallas, February 23-26, 1947. Dr. L. P. Walter, Austin, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Secretary.

Texas Radiological Society. Dr. C. A. Stevenson, Temple, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association, May 5, 1947, Dr. F. L. Snyder, Fort Worth, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene, San Antonio, April 10-12, 1947. Dr. Jack R. Ewalt, University of Texas Medical Branch, Galveston, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastro-Enterologists and Proctologists, Dallas, May 5, 1947. Dr. Tom E. Smith, Dallas, President; Dr. D. L. Curb, 704 Dallas Ave., Houston, Secretary.

Texas Society of Ophthalmology and Otolaryngology, Houston, December, 1947. Dr. W. E. Vandevere, El Paso, President; Dr. E. D. Dumas, 425 Medical Arts Bldg., San Antonio, Secretary.

Texas Society of Pathologists, Business Session, Dallas, May 7, 1947; Annual Session, Galveston, January 25, 1948. Dr. D. A. Todd, San Antonio, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Heart Association, Dallas, May 5, 1947. Dr. Robert M. Barton, Dallas, President; Dr. M. B. Whitten, Medical Arts Bldg., Dallas, Secretary.

Texas State Urological Society, Dallas, November or December, 1947. Dr. Jo C. Alexander, Dallas, President; Dr. Hub Isaacks, Medical Arts Bldg., Fort Worth, Secretary.

Texas Surgical Society, Dallas, April, 1947. Dr. Walter Stuck, San Antonio, President; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association, Dallas, September 15-16, 1947. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

Third, Panhandle, District Medical Society, Amarillo, April 8-9, 1947. Dr. W. A. Carroll, Claude, President; Dr. George Powers, Fisk Bldg., Amarillo, Secretary.

Fourth District Medical Society, Coleman, 1947. Dr. Glenn H. Ricks, Brady, President; Dr. J. C. Young, Coleman, Secretary.

Seventh, Austin. District Society, February, 1947. Dr. Robert B. Morrison, Austin, President; Dr. M. I. Brown, Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts Medical Society, Orange, April, 1947. Dr. Walter F. Hasskarl, Brenham, President; Dr. George W. Waldron, Medical Arts Bldg., Houston, Secretary.

Eleventh District Society. Dr. L. L. Travis, Jacksonville, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas, District Society, Marlin, July 8, 1947. Dr. W. Howard Wells, Waco, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco., Secretary.

Thirteenth, Northwest District Society, Abilene, April 22, 1947. Dr. Frank Hodges, Abilene, President; Dr. Robert C. Stokes, 501 First National Bank Bldg., Fort Worth, Secretary.

Fourteenth District Society. Dr. C. B. Thayer, Gainesville, President; Dr. James Jeter, Ennis, Secretary.

Fifteenth, Northeast Texas, District Society. Dr. Joe Roberts, Longview, President; Dr. S. W. Tenney, Marshall, Secretary.

CLINICS

Dallas Southern Clinical Conference, Dallas, March 17-20, 1947. Miss Thelma J. Webb, 1133 Medical Arts Bldg., Dallas 1, Executive Secretary

New Orleans Graduate Medical Assembly, New Orleans, February 24-27, 1947. Dr. Max M. Green, Room 105, 1430 Tulane Ave., New Orleans 13, Secretary.

HOSPITALS NEEDING INTERNS AND RESIDENTS

Methodist Hospital, Dallas. Capacity 206 beds. C. B. Fielder, Superintendent (interns desired, July, 1947).

El Paso City County Hospital, El Paso. Capacity 192 beds. George W. Cook, Col., U. S. A., Ret., Superintendent (3 interns for one year term, graduates of class A medical school only).

All Saints Episcopal Hospital, Fort Worth. Capacity, 110 beds. Approved for graduate residency. Eva M. Wallace, R. N., Superintendent (1 resident immediately; 2 by July 1).

NEUROPSYCHIATRY RESIDENCY OFFERED

Southwestern Medical Foundation in coöperation with the Veterans Administration is offering a three-year residency in neuropsychiatry. Two years of this are divided into eight-month rotation periods between the Dallas area and the Veterans Administration hospitals at McKinney and Waco. The third year is elective, and investigative work is included. Approximately one-half of the required time covers psychosomatic medicine and mental hygiene work, including child guidance. The other half is inpatient psychiatry. A Dean's Committee composed of Dr. Guy Witt, Dr. P. C. Talkington, and Dr. Don Morris, secretary, is supervising the program. Further information may be secured from the Secretary, Dean's subcommittee for Neuropsychiatry, Southwestern Medical College, 2211 Oak Lawn Avenue, Dallas 4.

AMERICAN COLLEGE OF SURGEONS TO HOLD SECTIONAL MEETING IN TEXAS

Southwestern and southern fellows of the American College of Surgeons will convene at the Hotel Texas, Fort Worth, on March 20 and 21 for a sectional meeting. The medical profession at large, medical students, and hospital personnel have been invited to participate in the meeting, for which no registration fee will be charged.

Tentative plans call for a medical program and a hospital program. Both will include panel discussions, round table luncheon conferences, and motion pictures. A dinner and reception will be held the evening of March 20. Subjects probably to be included on the medical program concern carcinoma of the stomach and the colon; advances in anesthesia, including the use of curare; surgery of the kidney; surgery of the thyroid in relation to the use of thiouracil; intestinal obstruction; fractures of the hip, forearm, and elbow joint; the use of antibiotics in surgical practice; surgery of malignant growths in the neck; surgical measures and the use of anticoagulants in the prevention of pulmonary embolism; and postoperative care.

Dr. Curtice Rosser, Dallas, is chairman of the Texas executive committee of the College, and Dr.

T. H. Thomason, Fort Worth, is chairman of the local arrangements committee. Other members of the committee include Drs. May Owen, Frank W. Halpin, Louis Levy, Joe R. Wise, Frank Schoonover, George Enloe, J. Eschenbrenner, and Jerrell Bennett, and Tol Terrell, president of the Texas Hospital Association.

DALLAS HEALTH MUSEUM EXPANDS

Plans are being made by the Dallas Health Museum to employ a staff of full-time workers trained in the field of public health and to establish an extension program which will make available many of the museum's services to school, club, or business personnel without the necessity of a visit to the museum itself. These plans for expansion have been announced by Edward W. Brady, president of the Dallas Medical Services Society, one of the sponsors of the health museum. A drive for funds to operate such a program is being made during February and March.

The museum, established last October by the Dallas Academy of Medicine, is increasing its emphasis on demonstrations of modern medicine and health methods, public forums, and classes in hygiene. Motion pictures on a variety of health topics are already being shown. It is anticipated that motion pictures and other movable displays will be made available to larger audiences through the proposed extension service. At present health displays, motion pictures, and lectures are offered free to visitors at the museum in Fair Park.

TEXAS SOCIETY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY

One hundred six members and guests of the Texas Society of Ophthalmology and Oto-Laryngology were present at the twenty-first annual meeting in Dallas, December 6-7. They selected Houston as the next meeting place, with the date to be sometime in December, 1947.

New officers elected include Drs. W. E. Vandevere, El Paso, president; Sam N. Key, Sr., Austin, first vice-president; Lester H. Quinn, Dallas, second vice-president; E. D. Dumas, San Antonio, secretary; J. Charles Dickson, Houston, treasurer; and M. K. McCullough and John G. McLaurin, Dallas, and C. H. Brooks, Waco, councilors.

The scientific program was as follows:

December 6

Observations on the Effects of Diisopropyl Fluorophosphate—Dr. John L. Matthews, San Antonio.
Discussion: Dr. Dan Brannin, Dallas, and Dr. W. E. Muldoon, San Antonio.
Acute Mastoiditis Masked by Penicillin Therapy—Dr. John H. Barrett, Houston.
Discussion: Dr. Herbert H. Harris, Houston, and Dr. James P. Aderhold, San Antonio.
Surgical Treatment of Cataract—Dr. C. S. O'Brien, University of Iowa, Iowa City.
Luncheon—Dr. Tom Barr, Dallas, presiding.
Honor Guests: Dr. William A. Wagner, Dr. C. S. O'Brien, and Dr. S. N. Key, Jr.
Cytologic Lavage of Sinuses—Dr. William A. Wagner, Tulane University, New Orleans.
Diagnosis and Treatment of Convergent Strabismus—Dr. S. N. Key, Jr., Austin (formerly of University of Iowa).
Surgical Treatment of Cataract (continued)—Dr. C. S. O'Brien.

December 7

Stenosis of the Esophagus—Dr. George S. McReynolds, Galveston.
Discussion: Dr. Oliver W. Suehs, Austin, and Dr. August J. Streit, Amarillo.
Retinochoroiditis Juxta Papillaris—Dr. William J. Snow, Houston.
Discussion: Dr. F. J. Slataper, Houston, and Dr. H. L. Hilgartner, Jr., Austin.
Otosclerosis—Dr. William A. Wagner.
Diagnosis and Treatment of Convergent Strabismus (continued)—Dr. S. N. Key, Jr.

Registrants and their wives attended a cocktail party and formal banquet the evening of December 6.

Dr. Edward H. Cary was general chairman of local committees, and Mrs. Hugh L. McLaurin was chairman of a luncheon for visiting women.

UNIVERSITY OF TEXAS POSTGRADUATE COURSE IN PHYSICAL MEDICINE

Additional details regarding the March 3-7 postgraduate course in physical medicine and rehabilitation to be offered by the University of Texas Medical Branch, Galveston, have been released. The program will include symposia on arthritis and on poliomyelitis, a discussion of the use of physical medicine in general practice and in specific medical specialties, instruction in the therapeutic use of physical medicine aids for specific conditions, and a discussion of rehabilitation measures involving physical medicine. Demonstrations and motion pictures will be used in addition to lectures, and physical therapy equipment will be on display. Instructors will advise those interested in establishing physical therapy and occupational therapy programs in their own cities. Seventeen outstanding guest speakers have been invited to participate in the course, and fourteen members of the University staff will assist.

Basil O'Connor, president of the National Foundation for Infantile Paralysis, and Dr. George M. Piersol, professor of medicine, Graduate School of Medicine, and professor of clinical medicine, University of Pennsylvania Medical School, will speak at a banquet the evening of March 6.

Physicians and qualified physical therapy technicians planning to attend the session should register in advance with Dr. Truman G. Blocker, director of postgraduate training at the University. A fee of $25 will be charged for the entire course, with an additional $2 fee for those desiring certification of attendance. A fee of $5 per day will be charged those who wish to attend only part of the time.

TEXAS HOSPITAL ASSOCIATION

The Texas Hospital Association has extended an invitation to physicians in the state to attend the eighteenth annual convention of the Association at the Rice Hotel, Houston, March 27, 28, and 29.

The program will cover health subjects of current nationwide and local interest, and prominent national and state speakers will contribute toward making it a success. The national retirement program for hospital employees, Texas Hospital Survey Report, state hospital legislative program, prepaid hospital and medical care in Texas, Veterans Administration program, program of the State Medical Association, and public relations will be the outstanding topics. Panel programs covering current problems in all hospital departments also are scheduled.

Dr. L. L. D. Tuttle, Houston, who has been appointed delegate from the State Medical Association to the Texas Hospital Association by the Medical Association President upon the request of the Hospital Association president that a representative be named, will appear on the program.

Four state associations of allied health groups will hold their annual meetings in the Rice Hotel at the same time: hospital women's auxiliaries, occupational therapists, medical record librarians, and nurse anesthetists.

Texas physicians have always had a cordial welcome at the meetings of the Texas Hospital Association, but with the continually increasing overlapping of activities in all the health fields, Hospital Association officials are particularly eager to have physicians at the Houston meeting this year.

U. S. PUBLIC HEALTH NURSE EXAMS

The U. S. Public Health Service has announced a schedule of examinations for the appointment of nurses to the first three grades of its regular commissioned corps. Positions are open in Marine hospitals, public health nursing, and certain special projects of the Public Health Service. Oral examinations will be held at the Marine Hospital, Forty-Fifth Street and Avenue N, Galveston, on March 18, with written examinations scheduled in April. Additional information may be secured from the Marine Hospital.

ERROR IN CIBA SLIDE RULE

Because of a manufacturer's error in the placement of a decimal point, the medical "Slyd-Rul" enclosed in the December issue of *Ciba Symposia*, widely distributed to physicians by Ciba Pharmaceutical Products, Inc., is incorrect. The pharmaceutical concern has requested that recipients of the slide rule be informed that conversion from 0.4 grain to gram should read 0.025 gram, instead of 0.25. A temporary paper table is being mailed to replace the original celluloid table, and a new celluloid table will be sent as soon as possible.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth 3, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Only one package may be borrowed at a time, and packages are allowed to remain in the hands of the borrower for 14 days.

Packages were mailed from the Library of the State Medical Association to the following during January:

Dr. C. Curtis Allen, Wichita Falls—*Forceps* (6 articles).

Dr. Raymond H. Tull, Abilene—(2 journals).

Dr. Frank W. Kelley, Pampa—*Paravertebral Block* (14 articles).

Dr. William M. Blair, Wharton—(3 journals).

Dr. George Tulloch, Okmulgee, Okla.—(1 journal).

Dr. J. H. Grammer, Fort Worth—*Abscess, subphrenic* (14 articles).

Dr. Charles Mims, Mission—*Labor* (14 articles); *Anesthesia, nitrous oxide* (17 articles); *Anesthesia, barbital derivatives* (8 articles); *Hemorrhoids, therapy* (17 articles).

Dr. Charles B. Reed, Clarksville—*Arthritis, therapy* (20 articles).

Dr. R. W. Loveless, Bastrop—*Asthma, therapy* (7 articles).

Dr. S. N. Key, Jr., Austin—*Undulant Fever, diagnosis* (20 articles).

Dr. Maxwell Thomas, Dallas—*Eyes, cysts* (5 articles).

Dr. C. C. Pate, Paducah—*Erythroblastosis, fetal* (23 articles).

Shannon West Texas Memorial Hospital, San Angelo—*Thrombophlebitis* (13 articles); *Sympathectomy* (11 articles); *Nerves, vagus* (8 articles).

Dr. James W. Williams, Mineola—(9 journals).

Dr. Jesson L. Stowe, El Paso—*Blood, groups* (20 articles).

Southwestern Medical Library, Dallas—(1 journal); (1 journal).

Scott and White Clinic Library, Temple—(1 journal); (4 journals).

Dr. Frank B. Duncan, Amarillo—*Deafness* (2 articles).

Dr. B. B. Friedman, Corpus Christi—(1 book).

Dr. W. A. Chernosky, Temple—(2 journals).

Dr. J. P. Gibson, Abilene—*Oxyuriasis* (7 articles).

Dr. Ray G. Boster, Sanatorium—(21 articles).

Dr. R. R. Wills, Hereford—*Anemia, aplastic* (22 articles).

Dr. Charles A. Shoultz, Bay City—*Tuberculosis, therapy* (7 articles).

Dr. F. O. McGehee, Houston—(1 journal).

Drs. Lamm and Lamm, La Feria—*Urethra roentgenography* (3 articles).

Dr. N. A. Elder, Nixon—*Measles, immunity* (11 articles).

Dr. Edward T. Kealey, Johnson City—*Prostigmine* (8 articles).

Dr. Frank H. Kidd, Jr., Dallas—*Blood, proteins* (17 articles); *Diet and Dietetics* (18 articles); *Nutrition* (9 articles).

Dr. J. B. Bauknight, Ganado—*Stilbamidine* (2 journals).

Dr. M. S. Ragland, Gilmer—(1 journal).

Dr. C. R. Finnegan, Dallas—*Uterus, hemorrhage* (16 articles).

Dr. B. M. Puckett, Amarillo—*Medicine, progress* (17 articles).

Dr. James P. Gill, San Antonio—*Glasses, contact* (16 articles).

Dr. James N. White, San Angelo—*Carotid Sinus* (13 articles).

Dr. David McCullough, Kerrville—(2 journals).

Dr. H. L. Wilder, Pampa—*Radioactivity* (27 articles).

Dr. J. H. Simons, Bay City—(1 journal).

Dr. J. P. McAnulty, San Angelo—*Mediastinum, inflammation* (1 article).

Dr. H. A. Scott, Austin—*Kleptomania* (3 articles).

Dr. Charles R. Hartsook, Wichita Falls—*Medicine, progress* (7 articles).

Packages on compulsory sickness insurance to superintendents, debate coaches, and students in Texas High Schools, 12.

ACCESSIONS

New York, The John Day Company—Carlson: Born That Way.

New York, Paul B. Hoeber—Mengert: Postgraduate Obstetrics.

Torbett: The Doctor's Scrapbook, privately printed.

Philadelphia, W. B. Saunders Company—Hyman: An Intergrated Practice of Medicine, four volumes and index; Cooke: Allergy in Theory and Practice; Novak: Gynecological and Obstetrical Pathology.

SUMMARY

REPRINTS RECEIVED, 682.	LOCAL USERS, 53.
JOURNALS RECEIVED, 196.	BORROWERS BY MAIL, 51.
ITEMS CONSULTED, 239.	PACKAGES MAILED, 60.
ITEMS TAKEN OUT, 299.	ITEMS MAILED, 564.

TOTAL ITEMS CONSULTED AND MAILED, 1,102.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned

by the Film Library of the State Medical Association of Texas during January:

Amputation of the Lower Extremities (Available through the courtesy of the Medical Department of the U. S. Army)—Medical and intern staff of the Santa Rosa Hospital, San Antonio.

Another to Conquer (Available through the courtesy of the Texas Tuberculosis Association)—Lufkin High Schools, Lufkin.

Appendicitis in Childhood (Available through the courtesy of Mead Johnson & Company)—Nacogdoches County Medical Society, Nacogdoches.

Chest X-Ray Routine Admissions (Available through the courtesy of the Texas Tuberculosis Association)—Tuberculosis nursing consultants from 10 southern states, Dallas.

Chest X-Ray Techniques (Available through the courtesy of the Texas Tuberculosis Association)—Tuberculosis nursing consultants from 10 southern states, Dallas.

Choose to Live (Available through the courtesy of the U. S. Public Health Service and the American Society for the Control of Cancer)—Price Hospital Staff and the Delphian Club, Lamesa.

Convalescent Care and Rehabilitation of Patients with Spinal Injury (Available through the courtesy of the Medical Department of the U. S. Army)—Victoria Hospital Staff, Victoria.

D. D. T., the Story of (Available through the courtesy of the British Information Services)—Brownwood Rotary Club and the Kiwanis Club, Brownwood.

Evacuation of the Wounded (Available through the courtesy of the Medical Department of the U. S. Army)—Six-County Medical Auxiliary, Big Spring.

Forty Billion Enemies (Available through the courtesy of Westinghouse Electric and Manufacturing Co.)—Kiwanis Club, Brownwood, and the Public Health Department, Fort Worth.

From Moo to You (Available through the courtesy of the Borden Company)—Public Health Department, Fort Worth.

Golden Glory (Available through the courtesy of Standard Brands, Inc.)—Kiwanis Club, Brownwood, and the Public Health Department, Fort Worth.

Mastoidectomy (Available through the courtesy of Dr. Louis Daily, Houston)—Harris College of Nursing, Fort Worth.

Medical Service in the Invasion of Normandy (Available through the courtesy of the Medical Department of the U. S. Army)—Six-County Medical Auxiliary, and the Malone-Hogan Hospital Staff, Big Spring.

Medical Service in the Jungle (Available through the courtesy of the Medical Department of the U. S. Army)—Six-County Medical Auxiliary, Big Spring.

Plaster Casts (Available through the courtesy of the Medical Department of the U. S. Army)—Crystal Clinic and Hospital, Crystal City.

Premature Infant, the Care of (Available through the courtesy of Mead Johnson and Company)—Victoria Hospital Staff, Victoria.

Normal Delivery (Available through the courtesy of Mead Johnson and Company)—Harris College of Nursing, Fort Worth.

TB, This Is (Available through the courtesy of the Texas Tuberculosis Association)—Lufkin High Schools, Lufkin.

Underwater Therapy, Victoria Hospital Staff, Victoria.

Accent on Use (Available through the courtesy of the National Foundation for Infantile Paralysis)—Kiwanis Club, Brownwood.

Anesthesia, Intravenous (Available through the courtesy of Abbott Laboratories)—Gray-Wheeler Counties Medical Society, Pampa.

NEW MOTION PICTURES FOR THE FILM LIBRARY

The Motion Picture Film Library of the State Medical Association has received the following films from Mead Johnson & Company, Evansville, Ind., for relending:

Cholecystectomy. 16 mm., silent, showing time, 28 minutes. This picture shows the operative procedures in this type of surgery, including several anomalous conditions. It was made by Dr. Dennis R. W. Crile, Augustana Hospital, Chicago.

Hysterectomy. 16 mm., silent, showing time, 19 minutes. This film was made by Dr. Dennis R. W. Crile, Augustana Hospital, Chicago. It shows a hysterectomy, including several different pathologic conditions and anomalies.

LIBRARY NEEDS

The journals listed below are needed by the Library of the State Medical Association to complete volumes for binding. Any of these numbers will be acceptable either as a gift or for purchase. It is preferable that the Library, 1404 West El Paso Street, Fort Worth 3, be notified regarding items available, and the prices of such items, if any, before shipment is made. The numbers needed follow:

American Heart Journal, Vol. 10, No. 2. (Dec.) 1934.

American Journal of Digestive Diseases, Vol. 2, No. 2 (April) 1935.

Archives of Surgery, Vol. 26, No. 6 (June) 1933.

Endocrinology, Vol 12, No. 4 (July-Aug.) 1928.

Industrial Hygiene, Vol. 17, No. 6 (Nov.) 1935.

Journal of the Michigan State Medical Society, Vol. 32, No. 8 (Aug.) 1933.

Journal of the Oklahoma State Medical Association, Vol. 26, No. 4 (April) 1933.

Southern Surgeon, Vol. 4, No. 3 (June) 1935.

BOOK REVIEWS

[1]**The Surgical Technic of Abdominal Operations.** By Julius Spivack, M. D., LL. D., Associate Professor of Surgery, University of Illinois College of Medicine. Cloth, 710 pages. 682 illustrations on 362 figures, mostly original. Fourth edition. Price, $10.00. Springfield, Illinois, Charles C. Thomas, Publisher, 1946.

This is an interesting book and well worth having. The technique of surgical operations is presented in a definite, detailed, and orderly fashion.

The author gives much of the historical background of each operation briefly yet adequately. The surgical anatomy is well described, and pertinent points concerning various possible surgical errors and precautions are mentioned. The illustrations are numerous and, on the whole, very good. A few are too diagrammatic, but this fault is found in most similar works.

The book should be very useful to refresh one's memory where various names are attached by usage to certain procedures. The author gives a brief but complete description of all the accepted variations of any given surgical procedure under the different

[1]Reviewed by J. Peyton Barnes, M. D., Houston, Texas.

names, and this in itself adds a great deal to the book.

The section on stomach surgery, surgery of the gallbladder and biliary ducts, and surgery of the pancreas is very good and up to date.

This book is recommended for the surgical resident and for the experienced practitioner, as each will get value from its perusal.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

The American College of Surgeons has released a list of Texans who were received into fellowship at the convocation held December 20 in Cleveland, during the clinical congress of the college. The new fellows are Drs. Prentice Crumpler, Jr., Temple; Albert P. D'Errico, Dallas; Charles H. Dittman, San Antonio; Norman Duren, Beaumont; J. Wade Harris, Houston; Ben F. Harrison, Dallas; Ridings E. Lee, Dallas; Henrie E. Mast, Lubbock; Edward D. McKay, Temple; Maurice J. Meynier, Jr., Houston; Robert C. L. Robertson, Houston; Joseph P. Salerno, Houston; Lawrence M. Shefts, San Antonio; Edward T. Smith, Houston; Maurice P. Spearman, El Paso; Robert Mayo Tenery, Waxahachie; Joseph R. Theriot, Jr., Houston; Leroy Trice, Palestine; and Margaret Watkins, Dallas.

The Association of American Physicians and Surgeons is sponsoring its first annual essay contest for junior and senior high school students on the subject, "Why the Private Practice of Medicine Furnishes This County with the Finest Medical Care." Prizes of $1,000 for the best essay, $500 for the second best, and $100 for the third best are being offered for essays of 1,500 words or less by junior or senior high school students who are not the children of physicians. Dr. Joseph C. Bunten, chairman of the contest committee, suggests that county medical societies sponsor a local contest, selecting the three best papers for submission to the national contest. Essays must be received by the Association, 11 South La Salle Street, Chicago 3, by April 30 for entry in the national contest.

The American College of Radiology and the Philadelphia Roentgen Ray Society will sponsor a postgraduate course in radiology, March 30-April 4, in Philadelphia, for one hundred radiologists. Preference will be given to radiologists who served in World War II, with second preference going to qualified applicants who were unable to obtain admission to last year's course. Neoplastic and inflammatory diseases, carcinoma of the head and neck, dosage calculation and tumor sensitivity to radiation therapy, carcinoma of the breast, blood and hemopoetic diseases, carcinoma of the genital and urinary tract, benign and malignant diseases of the skin, and other subjects will be intensively studied. Additional information may be obtained from the American College of Radiology, 20 North Wacker Drive, Chicago 6.

The American Board of Ophthalmology is publishing a directory of its diplomates, to be arranged alphabetically and geographically, without biographical material. An effort is being made to secure names and addresses as they should appear. Diplomates who have not been contacted otherwise should send this information to the executive offices, Cape Cottage, Maine. The board has also announced that 1947 examinations will be held in Atlantic City, June 8-13; Philadelphia, June 13-16; and Chicago, the week of October 8.

The American Board of Psychiatry and Neurology has announced May 15-17 as the tentative dates for the next examination session, according to *The Journal of the American Medical Association.* Applications to take the examinations, which will be held in Philadelphia, must be in the hands of Dr. F. J. Braceland, Secretary, 102-110 Second Avenue S. W., Rochester, Minn., by March 1.

Mercy Hospital (Brownsville) Physicians Will Donate Their Services to a prenatal clinic, well-baby clinic, and tuberculosis clinic, the Brownsville *Herald* reports. The Junior Service League of Brownsville plans to establish a prenatal clinic, and a tuberculosis clinic will be established by the Cameron County Tuberculosis Association, supported largely through the sale of Christmas seals. The medical program of the clinics will be under the direction of the city and county physicians. The Mercy Hospital staff voted unanimously to support the clinics.

The Veterans Administration has announced that the hospital at Dallas is one of seventeen Veterans Administration hospitals equipped with a permanent iron lung, formerly standard equipment in only four such hospitals. Within a short time a similar lung will be installed in the hospital at Amarillo. Veteran patients requiring continued artificial respiration may be transferred to the nearest Veterans Administration hospital having an iron lung or, when travel is not possible, the apparatus may be shipped to the veteran.

Dallas will soon be the site of a Veterans Administration artificial eye and restoration clinic, at which eligible veterans may either be fitted with new plastic eyes or have repairs and alterations made to those they are wearing. Later the services of fitting and repairing plastic noses, ears, and hands will be added. Clinics are already in operation in eight cities throughout the nation, and Dallas is one of six additional cities scheduled to have the clinics in the near future.

The San Angelo Clinic-Hospital has enlarged its facilities by moving all physicians' offices to a new building around the corner from the hospital but connected with it, reports the San Angelo *Standard.* Formerly an apartment building, the new structure has been remodeled to accommodate physicians who previously occupied sixteen offices in the old building. This space is being converted into single hospital rooms, making a total of fifty-six beds available for patients.

Hospital Staff Officers have been named at several institutions recently. Dr. R. H. Engledow has been elected president of the Beaumont Municipal Hospital staff; Dr. W. J. Graber, vice-president; Dr. P. N. Fortney, secretary; Dr. Norman Duren, chief of surgery; and Dr. Seab Lewis, chief of medicine, informs the Beaumont *Journal.*

Memorial Hospital, Houston, staff officers recently elected include Drs. J. G. Heard, president; R. F. Bonham, vice-president; and Edward Crocker, secretary, the Houston *Chronicle* states. At Jefferson Davis Hospital, Houston, Dr. W. S. Red, Jr., has been named chief of the medical staff with Drs. Ralph C. Patrick, vice-chief; F. A. Bloom, secretary; Clyde M. Warner, chief of surgery; and W. A. Clark, chief of medicine. Dr. George F. Adam is the new chief of staff of the maternity division of St. Joseph's Infirmary, Houston, and Dr. John Wall is the new secretary. The Methodist Hospital, Houston, staff will be headed by Drs. John T. Stough as president; Emile Zax, president-elect; J. Roy Theriot, vice-president; and Ruth Hartgraves, secretary.

Hendrick Memorial Hospital, Abilene, according to the Abilene *Reporter-News,* has the following new officers: Drs. L. F. Johnson, Abilene, chairman of the medical staff; J. C. Duff, Anson, vice-chairman; Floyd Taylor, Abilene, secretary; R. W. Var-

ner, Abilene, chief of surgery; and J. N. Burditt and George W. Thurman, Abilene, executive committeemen.

Nazareth Hospital, Mineral Wells, will be served by the following officers: Drs. R. H. Smith, president; R. C. Jordan, vice-president; Ben L. McCloud, Jr., secretary; Don McCall, records chairman; W. B. Lasater, chief of surgical service; John Allensworth, chief of medical service; C. R. Williams, chief of eye, ear, nose, and throat; Edward F. Yeager, chief of x-ray; Ben L. McCloud, Jr., chief of obstetrics; W. B. Lasater and C. R. Williams, executive committeemen; and C. R. Williams, program chairman, reports the Mineral Wells *Index*. All named are of Mineral Wells except Dr. Smith, whose home is Palo Pinto.

Bethania Hospital, Wichita Falls, has announced the following staff officers: Drs. Bailey R. Collins, president of the executive board; K. W. McFatridge, vice-president; Harry Ledbetter, secretary; J. R. Reagan, assistant secretary; J. A. Heymann, P. K. Smith, and R. L. Daily, members of the executive board. The Wichita Falls *Times* indicates that the executive board has also appointed chiefs of the various departments.

Texas Medical Center.—A 200-bed children's hospital to cost $2,000,000 is being planned for the Texas Medical Center, Houston, by the Pediatrics Society of Houston. Announcement of the proposed hospital was made in December by Dr. E. W. Bertner, president of the center, who indicated that the hospital will embrace a crippled children's hospital (perhaps in conjunction with the Shrine hospital, for which funds are now being raised), a pediatric medical hospital, a surgical hospital, a year-round postgraduate teaching division, research foundation, neuropsychiatric institution, and a division of pediatric hygiene and public health. Reports in the Houston *Post* indicate that the newly proposed institution will not encroach on the general hospitals now existing or planned for the center. Need for additional beds for children has been emphasized by the Texas Child Health program leaders and by a survey recently made for the center by nationally known hospital consultants.

Texas Methodists during February are conducting a campaign for funds to erect an eight-story, $3,000,000 Methodist Hospital in the Texas Medical Center, according to the Houston *Post*. The main structure will house a chapel, emergency room, administrative offices, lounge, general kitchen, dining room, and pharmacy on the first floor, with provision for medical, surgical, maternity and nursery, operating, pathologic, and x-ray departments on the other levels. Adjoining the hospital will be a nurses home with accommodations for 250 student nurses. The school of nursing will include laboratories, class rooms, assembly space, and recreational facilities.

Baylor University College of Medicine, Houston, has announced a six months residency training program in the basic sciences to begin July 1. Anatomy, pathology, physiology, biochemistry, pharmacology and toxicology, parasitology, bacteriology, and hematology will be covered in the special course, details of which may be obtained from the Dean, Baylor University College of Medicine, Houston.

A Geiger-Muller counter for measuring radiation from radioactive materials has been donated to the Baylor University College of Medicine by Mr. and Mrs. M. F. Klicpera, Houston, in memory of their late son, David, according to the Houston *Post*. The instrument was made by Dr. G. C. Lechenger, assistant professor of radiology, from material furnished by Mr. and Mrs. Klicpera. The instrument was received December 30 by Dr. Joseph H. Gast, chairman of the department of biochemistry, in a simple ceremony, during which Bishop Clinton S. Quin blessed the gift. Dr. Carroll Handley, associate professor of physiology and pharmacology, and Dr. Gordon Robertson, assistant professor of anatomy, will begin experiments with radioactive iodine as soon as a supply of the element can be secured.

The University of Texas Medical Branch has announced receipt of several grants recently, according to the Galveston *Tribune*. The Texas Division of the American Cancer Society has contributed $5,700 to support the school's cancer clinic. Dr. John G. Sinclair, professor of histology and embryology, was given a grant of $2,000 to further his studies on the correlation of sickness and death occurring prior to, during, or immediately after birth in relation to the blood picture and other factors. Dr. Mildred Stanley, Tyler, a graduate of the medical school, has established the Mildred Stanley loan fund for women medical students. A loan of $250 will be available annually for a needy women student. The Pilot Club, a business and professional women's organization of Galveston, has offered $3,600 for a public health field instructor to work in conjunction with the public health department of the John Sealy College of Nursing.

Assets of the Rosalie B. Hite Endowment for Cancer Research with a book value of $315,080 have been assigned by the Board of Regents of the University of Texas for completing and equipping a cancer research laboratory at the M. D. Anderson Hospital for Cancer Research when it becomes a part of the Texas Medical Center in Houston, reports the Austin *Statesman*. The structure and equipment so provided will be designated in memory of the late Miss Hite. The assets assigned for the laboratory include bonds and stocks, notes, and real estate in Houston and California. Not assigned is real estate in Dallas with a book value of $373,333, which produces an income of approximately $26,000 used to finance fellowships in cancer research.

Dr. John G. Sinclair, professor of histology and embryology at the University of Texas Medical Branch, was recently elected president of the Texas Academy of Science, the Galveston *News* informs.

Dr. A. C. Broders, Mayo Clinic, Rochester, Minn., and Dr. Richard B. Cattell, Lahey Clinic, Boston, have been presented on the Phi Chi lecture series at the University of Texas, reports the Galveston *News*. Dr. Lester Reynold Dragstedt, professor of surgery at the University of Chicago, will appear March 13.

Southwestern Medical College has received a five-year grant of $2,500 for the establishment of "The Charles P. Guerriero, Sr., Memorial Lectureship in Obstetrics and Gynecology," informs the Oak Cliff *Tribune*. The fund, given by Dr. William F. Guerriero, Dallas, and George W. Guerriero, Monroe, La., in memory of their father, will be administered by a board consisting of Mr. Guerriero, Dr. W. Lee Hart, dean of Southwestern Medical College; Dr. William F. Mengert, chairman of the department of obstetrics and gynecology, and one other member. The lectures will be open to physicians, medical students, nurses, and interested persons in allied professions.

The trustees of the Southwestern Medical College have authorized affiliation of the college with the Veterans Administration Hospital at Waco. The college will appoint specialists in a consultant capacity to augment the medical service to patients in the hospital and will sponsor a resident training program. Similar agreements are already in force between the college and Veterans Administration hospitals in Dallas and McKinney, reports the Waco *News-Tribune*. Drs. Stephen Weisz, neuropathology; Robert Lackey, physiology; and Willard B. Weary, neurosurgery, have been nominated as consultants for the Waco hospital, an institution with 2,214 beds. Dr. George T. Caldwell, professor and chairman of the department of pathology, had also been nominated as consultant prior to his recent death.

PERSONALS

Dr. W. Compere Basom, El Paso, attended a postgraduate course in the treatment of infantile paralysis at the Knickerbocker Hospital, New York, February 3-8, under sponsorship of the El Paso County Chapter of the National Foundation for Infantile Paralysis.

Dr. Octavio Garcia, McAllen, received multiple fractures of the right arm in an automobile crash in December, reports the McAllen *Monitor*.

Dr. L. F. Grubbs, Abilene, was flown home by chartered plane following an automobile collision near Shreveport, La., in December. He suffered two broken ribs and other injuries, the Abilene *Reporter-News* reports.

Dr. J. Milton White, Port Arthur, Jefferson County health officer for the past sixteen years, resigned effective January 1, according to the Beaumont *Enterprise*.

Dr. Horace Duncan, Dallas County health officer for fourteen years, resigned January 1 to join the medical staff of the Veterans Administration, the Dallas *News* reports.

Dr. J. R. Turner, former Midland health officer, is the newly appointed director of the Cameron County Health Unit with offices in San Benito, states the Brownsville *Herald*. The unit had previously been under the direction of a sanitarian, and has been raised to the rank of a standard health unit by appointment of a recognized physician as director.

Dr. Clinton E. Adams, Abilene, has been promoted to the rank of colonel in the Medical Reserve corps, reports the Abilene *Reporter-News*. Dr. Adams saw active duty in World Wars I and II.

Dr. and Mrs. J. F. McKissick, Arlington, celebrated their golden wedding anniversary with an open house at their home December 1, reports the Arlington *Journal*.

Dr. and Mrs. Branwell Fanning Stevens, El Paso, have announced the marriage of their daughter, Sara Elise to Frank Gillespie McKnight in El Paso on December 26, reports the El Paso *Times*.

Dr. and Mrs. Emmett Grady Causey, El Paso, have announced the marriage of their daughter, Barbara Gene, to Joseph Harlan Tooley on December 29 in El Paso, according to the El Paso *Times*.

MARRIAGES

Dr. Gaylord A. Hart, Dallas, and Mrs. Anne Calcough Longfellow were married in Lamar, S. C., on September 29.

Dr. Michael K. O'Heeron and Miss Scharmayn Olsen were married in Houston on October 19.

BIRTHS

To *Dr. and Mrs. Charles D. Reece*, Houston, a daughter, born November 29.

To *Dr. and Mrs. Justin E. Bell*, Houston, a daughter, born in September.

To *Dr. and Mrs. Palmer E. Wigby*, Houston, a son, born November 20.

SOCIETY NEWS

Angelina County Society

January 13, 1947

(Reported by James C. Klein, Secretary)

Gail Medford, Lufkin, newly elected president, presided over the annual banquet of Angelina County Medical Society on January 13. Nineteen members and their guests were present.

Austin-Waller Counties Society

December 10, 1946

(Reported by R. A. Neely, Secretary)

Twenty members and guests of the Austin-Waller Counties Medical Society and Auxiliary were present for a turkey dinner given by Dr. and Mrs. O. E. Steck at their home in Bellville on December 10. Following the dinner the two groups met separately to elect officers. The medical society elected the following: H. E. Roensch, Bellville, president; S. C. Walker, Hempstead, vice-president; R. A. Neely, Bellville, secretary-treasurer; J. A. Neely, Bellville, F. W. Hover, Sealy, and V. Gordon, Sealy, censors; S. C. Walker, R. A. Neely, and V. Gordon, committee on public health and legislation; J. A. Neely, delegate; S. C. Walker, alternate.

Bee-Live Oak-McMullen Counties Society

December 16, 1946

(Reported by D. W. Davis, Secretary)

A resolution endorsing passage of a proposed basic science law by the Fiftieth Legislature was adopted by the Bee-Live Oak-McMullen Counties Medical Society on December 16 at the home of Tom B. Reagan, Beeville, president.

New officers were elected as follows: C. D. Gipson, Three Rivers, president; G. W. Sansom, George West, vice-president; D. W. Davis, Three Rivers, secretary-treasurer and delegate; and C. M. Poff, Tuleta, alternate. L. W. Kirkland, Beeville; G. W. Sansom, George West; and C. D. Gipson, Three Rivers, were named to the hospital committee. E. E. Miller, Beeville, will serve on the committee on public relations and medical legislation with L. W. Kirkland and J. W. Edmondson, both of Beeville, who were named to the committee last year.

Recent activities of the Texas Physicians Committee were discussed by E. E. Miller, Beeville, and D. W. Davis, Three Rivers.

C. D. Williamson, Three Rivers, who has retired after fifty years of practice, was elected to honorary membership.

Bell County Society

December 4, 1946

(Reported by O. B. Gober, Secretary)

Presentation of a Case of Rabies—Joe Barnhart, Beeville.

Bell County Medical Society, meeting at the Kyle Hotel, Temple, on December 4 with thirty-two members and six guests, voted to endorse passage of a basic science law by the Fiftieth Legislature. Upon motion of G. V. Brindley, Temple, the legislative committee, composed of A. F. Wolf, Rudolph K. Harlan, and Terrell Speed, all of Temple, was authorized to draw up a resolution.

Joe Barnhart, Beeville, discussed a case of rabies.

Officers for 1947 are as follows: O. B. Gober, president; Travis Smith, vice-president; J. G. Rodarte, secretary-treasurer; V. M. Longmire (re-elected for three years), J. W. Pittman (serving second year), and L. W. Pollok (serving third year), board of censors; A. C. Scott, delegate; A. F. Wolf, L. R. Talley, and J. W. Pittman (serving second year of two-year term), alternate delegates. Dr. Pittman resides in Belton, the other officers in Temple.

Albert Dabney Hurt was unanimously elected to membership upon application.

Announcement was made by Dr. Brindley that the Twelfth District Medical Society would meet in Temple on January 14 with C. C. Cody, Jr., Houston, President of the State Medical Association, as guest speaker at the luncheon.

Bexar County Society

New officers of the Bexar County Medical Society have been chosen as follows: J. L. Cochran, president; Thomas W. Sharp, vice-president; T. A. Pressly, treasurer; and J. W. Winter, secretary. All are from San Antonio.

Brown-Comanche-Mills-San Saba Counties Medical Society

December 9, 1946

(Reported by P. M. Wheelis, Secretary)

Intrathoracic Pain: Mortal or Inconsequential—Victor E. Schulze, San Angelo.

Low Back Pain and Its Treatment—Perry J. C. Byars, San Angelo.

Auxiliary members were guests of Brown-Comanche-Mills-San Saba Counties Medical Society for dinner preceding the regular meeting of the society at Hotel Brownwood on December 9. Twenty-seven members and guests were present.

The scientific program outlined above, presented by guests from San Angelo, was followed with a discussion by Victor E. Schulze, San Angelo, and O. N. Mayo, Brownwood, on physical examination vs. roentgen ray in the diagnosis of pericardial effusion. It was pointed out that as roentgen diagnosis has improved, physical examination has been neglected.

The society voted to send to each of its members copy of a recent letter to each druggist in the area condemning the practice of rebates on prescriptions.

New officers were elected as follows: Joe R. McFarlane, president; Fielding M. Pope, vice-president; Paul M. Wheelis, secretary-treasurer; Ben M. Shelton, delegate; Frederick W. Farley, alternate; and Ben M. Shelton, censor. Brownwood is the home of all but Dr. Farley, who resides in San Saba.

Cherokee County Society

November 26, 1946

Twenty-two members and guests of Cherokee County Medical Society were present for a meeting of the society November 26 at Rusk State Hospital. J. S. Scarborough and the hospital medical staff were hosts. Dr. and Mrs. Frank D. Patillo, Terrell, showed motion pictures of the South Pacific islands and the European theater.

Coleman County Society

December 5, 1946

Skin Grafting Using the Padgett-Hood Dermatome Method—Paul Wheelis, Brownwood.

Coleman County Medical Society held its annual banquet at the Coleman Hotel on December 5 with seventeen members and guests present. Paul Wheelis, Brownwood, presented a paper on skin grafting, which was discussed by H. B. Allen, Brownwood, and F. M. Burke, Coleman.

New officers, all of Coleman, include C. O. Moody, president; J. C. Young, vice-president; M. E. Weaver, secretary-treasurer.

Colorado-Fayette Counties Society

December 10, 1946

(Reported by C. I. Shult, Secretary)

Hemorrhage of the Respiratory Tract (lantern slides)—Robert E. Parrish, San Antonio.

Mal Implantation of Mesentery and Kidney Disorders Producing Backaches—O. J. Potthast, San Antonio.

Colorado-Fayette Counties Medical Society entertained the auxiliary with a dinner at the San Jacinto Hotel, Weimar, on December 10, after which a scientific program was presented under the direction of Adolph Potthast and Thomas Youens, both of Weimar. Discussion followed the papers by Robert E. Parrish and O. J. Potthast, guest speakers from San Antonio.

Denton County Society

December 5, 1946

Officers of the Denton County Medical Society were elected December 5 as follows: Walter S. Miller, president; Bert Davis, vice-president; Bobby Short, secretary-treasurer; William H. Magness, censor; Albert Wyss, delegate; and L. C. Lund, alternate. All are residents of Denton.

A committee composed of Harry Farber, Dr. Wyss, and Dr. Davis was appointed to consult with the Denton County Welfare Association.

DeWitt County Society

December 18, 1946

F. A. Prather, Cuero, was elected president; Chauncey Milner, Yoakum, vice-president; and A. J. Bohman, Cuero, secretary-treasurer, when DeWitt County Medical Society met December 18 at Cuero.

El Paso County Society

January 14, 1947

(Reported by W. Compere Basom, Secretary)

Wartime Research in Chemotherapy of Malaria—Branch Craige, Jr., El Paso.

J. E. Morrison, president; W. H. Stevenson, president-elect; W. R. Curtis, vice-president; and W. Compere Basom, secretary-treasurer, conducted their first meeting when El Paso County Medical Society met January 14. One hundred eleven of the 164 members were present for the session, which was held in the Turner Home, El Paso. The two-story house, a show place when it was built in 1910, was bequeathed by the late Dr. S. T. Turner to the medical society. Mrs. Turner was given a life interest in the house, but arrangements have been made in recent months for the El Paso County Medical Society and Auxiliary to take possession. The house has been remodeled to provide for meeting space, a medical library, and the doctors' exchange.

The society heard Branch Craige, Jr., El Paso, speak on wartime research in the chemotherapy of malaria. Chester D. Awe, El Paso, opened a general discussion.

Russell L. Deter, El Paso, reported on the condition of the El Paso City County Hospital. Recommendations were outlined for the improvement of services, and a motion was made that all members of the society participate in the work of the hospital.

Kenneth C. Baker, A. L. Perry, F. C. Golding, Ross W. Rissler, Robert F. Boveri, and James R. Herz were elected to membership upon application.

A suggested amendment to the By-Laws dealing with the time of meeting failed to pass. Meetings will therefore continue on every second and fourth Monday from September to May, inclusive.

Announcement was made that L. O. Dutton, El Paso, had been elected to charter membership in the International Association of Allergists, which will hold its first meeting in Paris in 1948.

Falls County Society

January 13, 1947

(Reported by Neil D. Buie, Jr., Secretary)

Surgical Operations for Disturbances of the Back (lantern slides)—Joe B. Foster, Houston.

Fifteen members of Falls County Medical Society and six visitors from the McLennan County Society met for dinner and a program at the Falls Hotel, Marlin, on January 13.

Joe B. Foster, Houston orthopedist, discussed 2,000 cases of low back pain occurring over a period of ten years. Of this group 124 were diagnosed as ruptured nucleus pulposus. Of these, 50 per cent were proved at surgery, 59 spinal fusions were performed, and 1 death was attributed to anesthesia. Dr. Foster discussed the important points in the history and physical examination of a case of ruptured nucleus pulposus.

Application for membership by Brewer D. Wheelis, Rosebud, was unanimously approved.

Galveston County Society

December 21, 1946

Galveston County Medical Society met December 21 at the Galveston Country Club. The following of-

ficers were elected: John McGivney, Galveston, president; Andrew Magliolo, Dickinson, vice-president; E. J. Lefeber, Galveston, secretary. J. L. Jinkins, Galveston, was appointed to the board of censors.

The society accepted an invitation from Jack Ewalt, director of the Galveston State Psychopathic Hospital, to hold a dinner meeting in January at the hospital. Plans were made to hold monthly dinner meetings.

Gonzales County Society

December 7, 1946

(Reported by C. C. Cogburn, Secretary)

History of the Gonzales Warm Springs Foundation for Crippled Children—John Babcock, Gonzales, Member of the Foundation Committee.

Significance of the Enlargement of the Thymus Gland in Infants—Robert E. Leaton, Resident in Pediatrics, University of Texas Medical Branch, Galveston.

Recent Advances in the Treatment of Congenital Syphilis—Erle E. Wilkinson, Associate Professor of Pediatrics, University of Texas Medical Branch, Galveston.

Gonzales County Medical Society was host to physicians from DeWitt, Hays, Guadalupe, and Caldwell Counties for a steak dinner and program in Gonzales on December 7.

John Babcock, lay member of the foundation committee for the Gonzales Warm Springs Foundation for Crippled Children, discussed the purpose, location, growth, and facilities for treatment at the foundation.

Two members of the University of Texas Medical Branch staff in pediatrics presented papers. Robert E. Leaton, resident in pediatrics, reviewed the literature on the clinical significance of the thymus gland and concluded that there is no proof that the thymus gland is of any clinical importance except in rare instances. Erle E. Wilkinson, associate professor of pediatrics, summarized the results of treating 64 patients with congenital syphilis by means of penicillin. In infants the results were dramatic, and penicillin is probably the treatment of choice. In children with late manifestations this therapy does not appear so effective on the schedules used to date, Dr. Wilkinson said. Several members of the society discussed the papers.

Gray-Wheeler Counties Society

(Reported by W. Purviance, Secretary)

Gray-Wheeler Counties Medical Society has elected the following officers for 1947: Frank Kelley, Pampa, president; H. E. Nicholson, Jr., Wheeler, vice-president; H. Y. Sygler, Shamrock, vice-president; K. W. Pieratt, Pampa, vice-president; W. Purviance, Pampa, secretary-treasurer; Julian Key, Pampa, censor; H. E. Nicholson, Wheeler, delegate; and Malcom Brown, Pampa, alternate.

Hardin-Tyler Counties Society

December, 1946

Nine members of Hardin-Tyler Counties Medical Society met in Kountze the middle of December. New officers elected include L. R. Lancaster, Sour Lake, president; T. A. Tennison, Silsbee, vice-president; W. H. Beazley, Silsbee, secretary; Watt Barclay, Woodville, delegate; and John Knight, Beaumont, alternate.

Hidalgo-Starr Counties Society

December 12, 1946

Etiology and Treatment of Acute Purulent Conjunctivitis—Thomas D. Allen, Rush Clinical Professor of Ophthalmology, University of Illinois College of Medicine, Chicago, and Edward W. Griffey, Houston.

Members of Hidalgo-Starr Counties Medical Society heard a preliminary report December 12 in Edinburg of the results of an investigation made several days previously of a disease of the eyes known locally as "Mexican sore eyes." The investigation was made by Thomas D. Allen, University of Illinois ophthalmologist, and Edward W. Griffey, Houston, ophthalmologist, who saw 200 patients with the disease during the clinic. Dr. Allen explained that the disease, a comparatively rare condition, is epidemiological in nature, is probably spread by gnats, and is self-limited. He advocated sanitary and personal cleanliness measures to eliminate the disease.

A motion picture explaining the action of the B complex vitamins was shown.

Officers elected at the meeting include Joe May, Edinburg, president; Carl Reed, San Juan, vice-president; Lloyd Southwick, Edinburg, secretary-treasurer; and Herbert M. Westphal, Weslaco, censor.

Hill County Society

December 13, 1946

J. E. Boyd, Hillsboro, was re-elected president of Hill County Medical Society at a dinner meeting in Hillsboro on December 13. Ben C. Smith, Hillsboro, was elected vice-president; Charles A. Garrett, Hillsboro, re-elected secretary-treasurer; Ben C. Smith, delegate; C. C. Campbell, Itasca, alternate; T. R. Barnett, Hillsboro, censor.

Hunt-Rockwall-Rains Counties Society

December 17, 1946

Hunt-Rockwall-Rains Counties Medical Society elected officers December 17 preceding a Christmas banquet given by the auxiliary at the Washington Hotel, Greenville. E. T. Crim was named president; Ralph Jenks, vice-president; Fred Peak, secretary; and W. B. Reeves, delegate. All live in Greenville.

Jefferson County Society

December 9, 1946

(Reported by L. R. Byrd, Jr., Secretary)

The annual meeting and banquet of Jefferson County Medical Society was held December 9 at the Goodhue Hotel, Port Arthur, with President George Sladczyk, Port Arthur, presiding.

The following officers for 1947 were elected by acclamation: Dudley English, Beaumont, president; Russell C. Willoughby, Groves, vice-president; Lamar Bevil, Beaumont, secretary-treasurer; L. C. Heare, Port Arthur, and L. C. Powell, Beaumont, delegates; R. R. Orrill, Port Arthur, and J. C. Crager, Beaumont, alternates; L. R. Byrd, Jr., Port Arthur, censor.

Upon motion by B. H. Vaughan, Port Arthur, seconded by T. B. Matlock, Port Arthur, the society voted to make Pat Reed, Port Arthur, an honorary member and to propose his name for honorary membership in the State Medical Association.

J. B. Morris was named attorney for the society for 1947, and O. D. Adamson was voted $100 for secretarial services during the past year. A contribution of $5 for the Beaumont and Port Arthur Tuberculosis Associations was voted.

Stuart Wier, Beaumont, moved that a committee be appointed by the president to study a disagreement between a society member and a Port Arthur labor union group. Following a second by C. H. Todd, Jr., Beaumont, the motion carried. The matter was referred to the legislative committee for study and report back to the society.

Before the meeting was adjourned a rising vote of thanks was given President Sladczyk for his leadership during the past year.

Johnson County Society

January 14, 1947

(Reported by J. G. Little, Secretary)

Johnson County Medical Society met at the Kimbro Clinic, Cleburne, on January 14, with nine present. A clinical-pathological conference was held, 2 cases from the records of the Massachusetts General Hospital as published in the *New England Medical Journal* serving as the basis for discussion. R. W.

Kimbro and W. R. Whitehouse, both of Cleburne, gave the principal discussion of the cases. The cases were discussed from the clinical records of the patients before the pathological records were made known. In each instance the reviewer arrived independently at the same opinion as the main speaker in a similar event at Boston, and after vigorous discussion, the other society members in the main agreed. The pathological reports were then read to disclose that both in Texas and in Boston the correct diagnosis was missed.

Kleberg-Kenedy Counties Society

December 11, 1946

(Reported by W. A. Ewert, Secretary)

Election of officers was held by Kleberg-Kenedy Counties Medical Society on December 11. Those elected include W. A. Ewert, president; L. P. Noel, Jr., vice-president; S. C. Dunn, secretary-treasurer; W. A. Ewert, delegate; and T. D. Reed, C. G. Brindley, and L. M. Barnett, alternates. All are from Kingsville except Dr. Barnett, who is from Bishop.

New officers were installed January 8.

Lamar County Society

(Reported by Robert L. Lewis, Jr., Secretary)

John A. Stephens, president; D. F. Kerbow, vice-president; and Robert L. Lewis, Jr., secretary-treasurer, all of Paris, will serve as officers of Lamar County Medical Society during the coming year.

Lubbock-Crosby Counties Society

January 7, 1947

(Reported by O. R. Hand, Secretary)

Intussusception: Reduction with Controlled Barium Enema—S. C. Arnett, Lubbock.

Thirty-seven members and three guests of Lubbock-Crosby Counties Medical Society met for dinner and a scientific and business session at the Negro hospital in Lubbock as guests of J. A. Chatman.

S. C. Arnett, Lubbock, presented a paper on intussusception. He noted that there is a mortality of 20 to 30 per cent in cases treated surgically, and reviewed the history of the use of a barium mixture under the fluoroscope to reduce intussusception, a method which has resulted in far less mortality. He outlined the symptoms and differential diagnosis involved, mentioning intermittent colicky abdominal pain, nausea and vomiting, diarrhea, tenesmus, blood and mucus in the stool, flaccidity of the abdomen, palpation of a sausage-like mass, and roentgen findings. He reported 5 patients who improved after intussusception was reduced by means of a barium enema and manipulation using a No. 16 Bardex catheter. All cases were of the ileocolic variety. It was noted that the barium can must be kept at a constant level and the catheter must not be clamped off. Dr. Arnett stated that the procedure requires considerable fortitude, that the time element is not of great importance, that the amount of circulatory damage is probably more important, but that no patients had required operation following reduction.

R. C. Douglas announced that he had been appointed to act with the Red Cross on a disaster committee for Lubbock County. He requested that two or more members be appointed to work with him, and President Pauline Miller appointed M. M. Ewing and E. M. Blake.

James W. Rollo brought up the subject of bringing a mobile tuberculosis case finding unit to Lubbock. Dr. Arnett said that this arrangement could be worked out only if a county health unit were formed. Upon his motion, seconded by Dr. Ewing, the matter was tabled.

Upon the report of the nominating committee, Allen T. Stewart, Lubbock, was elected delegate and Frank B. Malone, Lubbock, alternate, both by acclamation.

Dr. Miller appointed the following committees, all members of which are of Lubbock: legislation and public relations, Allen T. Stewart, Henrie E. Mast, and Olan Key; program, Roy Loveless, Roy Riddle, Jr., and Robert H. McCarty; public health, James W. Rollo, William L. Baugh, and A. G. Barsh.

Several communications were read.

The invitation of Dr. Chatman to return to the hospital for the May meeting was accepted. Other meetings will be held at the Plains Clinic, Lubbock.

Nacogdoches County Society

December 11, 1946

(Reported by Henry Tucker, Secretary)

Nacogdoches County Medical Society elected the following officers on December 11: C. T. Smith, president; C. F. Neuville, vice-president; and James G. Taylor, secretary. All the new officers reside in Nacogdoches.

Navarro County Society

December 20, 1946

(Reported by Paul H. Mitchell, Secretary)

Officers for 1947 were elected by Navarro County Medical Society on December 20. The new leaders include, from Kerens, Gurley H. Sanders, president and alternate; and from Corsicana, William R. Sneed, vice-president; Paul H. Mitchell, secretary; T. O. Wills, W. W. Carter, and L. E. Kelton, censors; Will Miller, legislative and public relations committee; and J. Wilson David, delegate.

Nueces County Society

December 3, 1946

(Reported by R. J. Sigler, Secretary)

Nueces County Medical Society on December 3 elected the following officers for 1947: Foy H. Moody, president; Alvin Ashmore, vice-president; Robert J. Sigler, secretary-treasurer; G. Turner Moller and John Pilcher, delegates; L. M. Garrett and McIver Furman, alternates; and R. G. Swearingen, censor. All those named are from Corpus Christi.

Palo Pinto-Parker Counties Society

December 10, 1946

Diagnosis of Heart Disease and Usages of the Electro-Cardiograph—E. Y. Yeager, Mineral Wells.

Palo Pinto-Parker Counties Medical Society honored physicians who have returned from military service and new members of the organization at a dinner meeting December 10 at Nazareth Hospital, Mineral Wells. E. F. Yeager, Mineral Wells, presented a paper, and new officers were elected. C. R. Williams, Mineral Wells, was elected president; H. C. Allen, Weatherford, vice-president; John Allensworth, Mineral Wells, secretary-terasurer; Don McCall, Mineral Wells, delegate; E. M. Russell, Weatherford, alternate; and C. R. Williams and R. H. Smith, Palo Pinto, censors.

Pecos-Jeff Davis-Presidio-Brewster Counties Society

January 5, 1947

(Reported by W. E. Lockhart, Secretary)

Low Back Pain (lantern slides)—J. C. Byars, Jr., San Angelo.

Members of the Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society were entertained by Fort Stockton physicians at the January 5 meeting. Six members and seven guests heard J. C. Byars, Jr., San Angelo, discuss low back pain. Dr. Byars emphasized the shortcomings of intervertebral disk etiology of pain and the importance of the articular facets.

Upon motion by C. E. Oswalt, Fort Stockton, seconded by W. E. Lockhart, Alpine, the society unanimously endorsed passage of the basic science bill in Texas.

A resolution was adopted in tribute to Dr. William Harrison Moore, Fort Stockton physician for twenty-eight years, who died December 12, 1946.

Potter County Society

January 13, 1947

(Reported by George M. Waddill, Jr., Secretary)

Fasciolate Transplant in Regression of Retrotarsal Fat (motion picture)—Weldon O. Murphy, Amarillo.

Potter County Medical Society met January 13 in Amarillo with twenty-six members and seven guests in attendance. The visitors included two representatives of the Blue Cross plan, three members of the Veterans Facility at Amarillo, and two physicians.

The scientific program consisted of a paper and motion picture on fasciolate transplant in regression of retrotarsal fat by Weldon O. Murphy, Amarillo.

Mr. Harley B. West, Dallas, a representative of the Blue Cross, explained the features of the hospitalization plan and medical and surgical plan of the organization. He proposed that Potter County Medical Society formally endorse the Blue Cross plan, enroll as a society in the plan, and create a committee to coöperate with the Blue Cross Association. Upon motion by E. A. Rowley, Amarillo, the society voted to endorse the Blue Cross plan. Discussion on the motion brought out the fact that the medical and surgical plan does not limit the fee a doctor may charge but does stipulate the amount which will be paid by Blue Cross. Howard Puckett, Amarillo, also pointed out that Potter County Medical Society had endorsed the Blue Cross plan several years ago and had contributed money to help get the plan started.

John M. Hooper was unanimously elected to membership upon application.

Several communications were read by the secretary.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Society

January 8, 1947

(Reported by Robert P. Jarrett, Secretary)

Pneumonia—Leo Duflot, Canyon.

Randall-Deaf Smith-Parmer-Castro-Oldham Counties Medical Society met in Canyon on January 8, with nine members and guests present. Leo Duflot, Canyon, presented a paper on pneumonia, which was discussed by the entire group.

Dr. Duflot was elected delegate, and R. A. Neblett, Canyon, and R. R. Wills, Hereford, were named to the committee on legislation and public relations.

Refreshments were served following the meeting.

Reeves-Ward-Winkler-Loving-Culberson-Hudspeth Counties Society

(Reported by L. C. Hanes, Jr., Secretary)

Reeves-Ward-Winkler-Loving-Culberson-Hudspeth Counties Medical Society has named W. H. McClure, Kermit, president; Harold Lindley, Pecos, vice-president; and L. C. Hanes, Jr., Wink, secretary, for 1947.

Smith County Society

January 9, 1947

(Reported by William M. Bailey, Secretary)

Surgical Treatment of "Blue Babies"—John W. Duckett, Dallas.
Operative Care of Peptic Ulcers—H. Walton Cochran, Dallas.

Smith County Medical Society met January 9 in the dining room of Mother Francis Hospital, Tyler, with thirty-six members and twelve visitors present.

Two Dallas physicians presented the scientific program. John W. Duckett discussed the surgical treatment of "blue babies." He showed by lantern slides the type of congenital defect these children have and how surgery has been able to correct the defect, so that now children who previously were almost certainly doomed to death before they were 15 years old are, in a large percentage of cases, made comfortable and allowed to take their place in life. He said that much is being done to improve the diagnosis and technique of handling such cases.

H. Walton Cochran spoke on the operative care of peptic ulcers. He reviewed the physiology and anatomy of the nerve supply of the stomach and showed how the destruction of the nerve supply will decrease the activity of the stomach, thus allowing ulcers to heal more readily. He stressed the fact that this treatment does not replace medical treatment and should be reserved for cases which do not respond satisfactorily to medicine.

C. C. McDonald, Tyler, thanked the society for its response in subscribing to the Industrial Foundation Committee; which, he reported, has arranged to bring in several new industries.

E. H. Caldwell, Tyler, reporting on the Physiotherapy Center, said that 46 patients had been treated and that another trained physiotherapist is being secured to help care for the patients. He stated that the center is open to the physicians of East Texas and invited society members to send in patients requiring treatment.

C. B. Young, Tyler, secretary of the Eleventh District Medical Society, announced that the spring meeting of the society will be held in Tyler with several outstanding speakers scheduled to appear.

Tarrant County Society

December 17, 1946

(Reported by W. P. Higgins, Secretary)

The Texas Physicians Committee and Its Relation to the National Physicians Committee—X. R. Hyde, Fort Worth.
The Status of the Veterans Program in Texas—Tom B. Bond, Fort Worth.

Thirty members and three visitors were present at a meeting of Tarrant County Medical Society in the Medical Arts Auditorium, Fort Worth, on December 17.

Upon motion by Tom B. Bond, Fort Worth, seconded by T. C. Terrell, Fort Worth, it was decided to establish adjudication and preceptorship committees in line with suggestions made by the State Medical Association.

X. R. Hyde, Fort Worth, explained the Texas Physicians Committee and its relation to the National Physicians Committee, and the relation of each to regularly organized medicine. He outlined the purposes of the Texas group. C. O. Terrell, Jr., R. B. Anderson, H. R. Hathaway, W. B. West, and T. L. Goodman, all of Fort Worth, discussed the subject.

Dr. Bond reported that the Council on Medical Economics of the State Medical Association has been working for the past six months with the Veterans Administration in an attempt to establish a statewide agreement regarding treatment of veterans. A questionnaire sent to each county medical society in the state was used as a basis for working out a representative fee schedule by the Council, and the regional office of the Veterans Administration has tentatively accepted the schedule. It has now gone to Washington for final approval, after which it will be returned to the State Medical Association for submission to the county medical societies for their approval or rejection. W. F. Ossenfort, W. B. West, W. W. Sumner, C. O. Terrell, Jr., Ted Lace, and Mal Rumph all of Fort Worth, discussed Dr. Bond's presentation.

Tribute was paid Mrs. T. G. Rumph, Fort Worth, wife of T. G. Rumph, who died December 4.

January 7, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Present Status of Immunizations Against Infectious Diseases—Harold M. Williams, Fort Worth.
Usual and Unusual Complications of Diphtheria—John M. Church, Fort Worth.

Tarrant County Medical Society met in Fort Worth on January 7 with eighty-two members and four visitors present. The scientific program outlined above was presented. E. G. Schwarz, James N. Walker, and I. P. Barrett discussed the paper by Dr. Williams. J. F. Campbell, J. F. McVeigh, Frank W. Halpin, R. J. White, Harold M. Williams, and T. C. Terrell discussed the paper by Dr. Church.

May Owen addressed the society before assuming the office of president. She introduced Sim Hulsey, chairman of the program committee, who outlined the committee's plans for the year.

Emory Davenport, H. R. Hathaway, Oscar L. Morphis, and V. H. Shoultz were elected to membership upon application.

Announcement was made by the secretary that the Thirteenth District Medical Society would meet in Abilene sometime in the spring and that those wishing to present papers then should contact Robert C. Stokes, Fort Worth, district secretary.

Taylor-Jones Counties Society

December 16, 1946

Approximately 120 persons were present for the annual banquet of Taylor-Jones Counties Medical Society in Abilene on December 16. The auxiliary was host for the affair.

New officers elected at the banquet, all Abilene physicians, include Clinton E. Adams, president; Jack A. Crow, vice-president; and L. J. Webster, secretary.

Travis County Society

(Reported by H. L. Hilgartner, Secretary)

Travis County Medical Society in December elected officers for the coming year as follows: O. W. Suehs, president; Charles B. Dildy, vice-president; Joe T. Gilbert, secretary-treasurer; Charles P. Hardwicke, delegate; and Sam N. Key, alternate. All are of Austin.

N. A. Kilgore, Houston, was guest of the society and showed photographs which he had taken while overseas.

Webb-Zapata-Jim Hogg Counties Society

December, 1946

Symposium: Diseases of the Thyroid Glands—John T. Lowry, Ruby South Lowry, S. H. Graham, W. R. Powell, and F. M. Canseco, Laredo.

Webb-Zapata-Jim Hogg Counties Medical Society met in December at the Plaza Hotel, Laredo, for a symposium on thyroid gland diseases, as noted above. Special emphasis was placed on hyperthyroidism and the latest methods of treatment.

E. M. Longoria was elected president; G. E. Penny, vice-president; John T. Lowry, reëlected secretary-treasurer; F. M. Canseco, censor; and A. T. Cook, delegate. All are of Laredo.

Wichita County Society

(Reported by R. L. Daily, Secretary)

Wichita County Medical Society will be headed by J. B. Nail as president, R. L. Daily as vice-president, and K. W. McFatridge as secretary-treasurer, during 1947. All officers reside in Wichita Falls.

Twelfth District Society

January 14, 1947

(Reported by H. F. Connally, Jr., Secretary)

Sixty-three members and visitors attended the meeting of the Twelfth District Medical Society in Temple, January 14, 1947. It was decided to accept the invitation of Howard Smith to meet next in Marlin on July 8.

W. Howard Wells, Waco, was elected president; R. R. White, Temple, vice-president; and H. F. Connally, Jr., Waco, reelected secretary. G. V. Brindley, Temple, was renominated to serve as Councilor of the district.

Bell County Medical Society was host at a luncheon featuring C. C. Cody, Jr., Houston, President of the State Medical Association, as speaker. Other addresses were included on the scientific program as follows:

Traumatic Injuries of the Hand—W. Howard Wells, Waco.
The Treatment of Chronic Lung Abscess—Donald L. Paulson, Dallas.
Management of Renal Calculi—Vincent Vermooten, Dallas.
Some of the Newer Concepts in Thoracic Surgery—G. V. Brindley, Jr., Temple.
Management of the Edematous Patient—Travis Smith, Temple.
Surgical Aspect of Gastric Ulcer—R. R. White, Temple.
Some Urological Problems in Gynecology—Howard Smith, Marlin.

A. Ford Wolf and R. C. Curtis were members of the arrangements committee.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. George Turner, El Paso; President-Elect, Mrs. Edward C. Ferguson, Beaumont; First Vice-President, Mrs. L. B. Windham, Tyler; Second Vice-President, Mrs. V. M. Longmire, Temple; Third Vice-President, Mrs. R. E. Clark, Memphis; Fourth Vice-President, Mrs. J. E. Hogan, Big Spring; Corresponding Secretary, Mrs. Robert F. Thompson, El Paso; Recording Secretary, Mrs. M. A. Ramsdell, San Antonio; Publicity Secretary, Mrs. J. F. Campbell, Fort Worth; Treasurer, Mrs. Guy Jones, Dallas; Parliamentarian, Mrs. Joe Nichols, Atlanta.

AUXILIARY NEWS

Austin-Waller Counties Auxiliary was entertained with the medical society by Dr. and Mrs. O. E. Steck at their home in Bellville, December 10. Following a turkey dinner served from a table decorated with red candles and holly, the two groups met separately. The auxiliary elected Mrs. R. A. Neely, Bellville, president, and Mrs. H. E. Roensch, Bellville, secretary-treasurer. Sixteen guests were served by Mrs. Steck, assisted by her sisters, Mrs. Eddie Koerth and Mrs. Ed Dittert.

Bell County Auxiliary sponsored the showing of health films throughout the county during January, under the direction of Mrs. G. V. Brindley, Temple. A campaign to increase the sales of *Hygeia* was carried on at the same time.—Mrs. John E. Bauman, Publicity Chairman.

Bowie-Miller Counties Auxiliary entertained with a Christmas party December 10 at the home of Mrs. A. G. Lee, Texarkana. Forty-three members, their husbands, and guests were served refreshments from a table appointed in red and silver, centered with an arrangement of poinsettias. Guests were greeted by Mrs. Lee, Mrs. Roy Baskett, and Mrs. Ralph Cross. Assisting in the dining room were Mesdames Allen Collom, R. R. Kirkpatrick, and Harry Murry. Gifts were distributed from a gaily decorated tree.

El Paso County Auxiliary at its December meeting honored Mrs. George Turner, State Auxiliary president, who spoke on the program of the State and National Auxiliaries. Mrs. Turner had previously visited twenty-eight auxiliaries throughout the state. A tea was held following the talk, with Mesdames James L. Gorman, J. Leighton Green, and Ralph Homan as hostesses and Mesdames R. B. Homan, Jr., J. H. Hinton, W. R. Jamieson, Gerald Jordon, E. C. Johns, C. E. Jumper, N. H. Keller, Sam King, Jack King, J. W. Laws, T. C. Liddell, A. D. Long, K. D. Lynch, John D. Martin, C. H Mason, Paul McChesney, Ervin McNeil, Felix Miller, and John Morrison as cohostesses. Mrs. Russell Deter arranged the Christmas decorations.

El Paso County Auxiliary met January 13 in the Turner Home, El Paso, to hear Col. John E. Blaine discuss the Blue Cross hospital plan. Mrs. J. J. Gorman reported current medical events. Mrs. H. Earl Rogers and Mrs. John D. Peticolas were hostesses for the tea hour following the business session, assisted by Mesdames A. W. Multhauff, P. R. Outlaw, Palmer Reed, Charles Rennick, Sam Rennick, Paul Rigney, J. Rogde, J. B. Robbins, E. B. Rogers, F. R. Schuster, Stephen Schuster, T. E. Scott, T. J. B. Shanley, Francis Snidow, M. P. Spearman, and Celso Stapp. Mrs. Russell Deter was in charge of decorations.—Mrs. J. D. Martin, Publicity Chairman.

Falls County Auxiliary had a dinner meeting January 13 in Marlin. Ten members and one guest, Mrs. J. B. Foster, Houston, were present.—Mrs. J. B. Barnett, President.

Hunt-Rockwall-Rains Counties Auxiliary honored medical society members at an annual Christmas banquet December 17 at the Washington Hotel, Greenville. Nearly one hundred guests were present to hear a talk on "What Is Right with the World?" by the Rev. George Sagen, pastor of Washington Street Baptist Church. Mrs. W. P. Philips, Greenville, president of the auxiliary, presided. The Rev. H. C. Henderson, pastor of Kavanaugh Methodist Church, delivered the invocation; Dr. S. D. Whitten, Greenville, past president of the medical society, introduced incoming officers, who had been elected immediately preceding the banquet; and Mrs. Donald Course, Mrs. W. N. Miller, and Mrs. Mary Buchanan presented a musical program. Arrangements were in charge of Mesdames J. W. Ward, Wendell Pool, Fred Peak, and Anna Boykin. Garlands of red berries, holly, and poinsettias decorated the tables.

Jefferson County Auxiliary entertained members of the medical society at a Christmas dinner and party December 14 at the Edson Hotel, Beaumont. In charge of arrangements were Mesdames John Carter, E. D. Cunn, Walter D. Brown, Sr., and J. C. Crager.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary met December 13 in the home of Mrs. C. L. McClellan, Kerrville, with Mesdames A. P. Allison and H. H. Gallatin as cohostesses. Mrs. Northrop, secretary of the Tuberculosis Christmas Seal Sale sponsored by the auxiliary, reported on the amount received so far from the sale. She also introduced three high school students, Franklin Gagnard, Agnes Henks, and Meta Flora Real, who read essays on "Preventive Measures in Combating Tuberculosis." The three essays had won first, second, and third prizes, respectively, in a contest sponsored by the seal sale committee. Refreshments were served while Christmas carols were played.—Mrs. David McCullough, Publicity Secretary.

Liberty-Chambers Counties Auxiliary met January 9 in the home of Mrs. Frank Griffin, Liberty, to elect officers. Mrs. W. H. Bridges, Goose Creek, was named president; Mrs. Lloyd Fahring, Anahuac, vice-president; Mrs. Griffin, secretary-treasurer; and Mrs. Jack Bevil, Hull, parliamentarian. Mrs. Griffin presided over the business session, at which seven members were present. Refreshments were served during a social hour.—Mrs. E. R. Richter, Secretary.

Orange County Auxiliary met January 7 at the home of Mrs. C. E. Phillips, Orange, with Mrs. G. Y. Swickard as cohostess. Mrs. M. H. Bierman, Mrs. W. R. Thornton, and Mrs. Robert Shepherdson were received as members at large, and Mrs. Edward Becker and Mrs. George H. Kinser were enrolled as regular members. Mrs. Swickard led a program on new medicines, and Mrs. T. O. Woolley, president, conducted a business session. A social hour during which refreshments were served followed the meeting.—Mrs. T. O. Woolley, President.

Taylor-Jones Counties Auxiliary honored the medical society at a dinner December 16 at the Abilene Country Club. Mrs. L. J. Pickard, chairman of the entertainment, was assisted by Mesdames O. W. Little, W. A. V. Cash, Bruce Porter, and Guy Pattillo.

Tom Green-Eight County Auxiliary had a Christmas luncheon December 16 at the Hotel Cactus, San Angelo. Thirty members exchanged white elephant gifts from a lighted yule tree and heard a seasonal program given by guest artists. Mesdames George Nesrsta, Maynard Knight, Lewis Tester, and Victor Schulze were hostesses. Tables were decorated with red berries and red candles in silver candelabra.

The auxiliary on January 6 at the Massie Clubhouse, San Angelo, heard Mrs. C. E. Bludworth review "Fabulous Empire" by Fred Gipson. Mrs. Bludworth was introduced by Mrs. Victor Schulze. A tea hour followed the review, with Mrs. Jerome Smith and Mrs. R. M. Finks presiding at the tea table. Hostesses included Mesdames W. B. Butner, R. M. Arledge, Aubrey Lewis, D. D. Wall, Grady Mitchell, G. W. Nibling, and Kermit Brask. About one hundred guests attended.—Mrs. Victor Schulze, Publicity Secretary.

Travis County Auxiliary held its annual party honoring members of the medical society at the Austin Country Club, December 17. Christmas decorations were used throughout the club rooms and on the buffet. About one hundred guests were present. The hostess committee, headed by Mrs. L. C. Paggi, included Mesdames W. P. Morgan, H. L. Hilgartner, Paul White, J. A. Crockett, David Wade, Henry Paine, Robert J. Jaehne, S. H. Dryden, C. B. Dildy, and G. W. Cleveland.

DEATHS*

Dr. and Mrs. Joseph Corrigan, Jr., Conroe, Texas, were killed shortly before midnight October 28, 1946, when the private plane, piloted by Dr. Corrigan, in which they were flying, went into a spin at low altitude and crashed near the Conroe Airport. Dr. and Mrs. Corrigan and another couple were celebrating Mrs. Corrigan's birthday. The other man and Dr. Corrigan had returned from a flight, and the woman was awaiting her turn when the plane crashed. A low fog was blamed for the accident.

DR. JOSEPH CORRIGAN, JR.

Dr. Corrigan, son of Joseph and Nettie Corrigan, was born February 17, 1913, in Shreveport, La. He was graduated from Louisiana State University Medical School, New Orleans, in 1936, and served an internship at Charity Hospital, Shreveport. After practicing a year in Shreveport, Dr. Corrigan went to Conroe, where he had been active until his death.

Dr. Corrigan was a member of Montgomery County Medical Society, the State Medical Association, and American Medical Association. He was president of the Conroe Lions Club in 1942-1943, and was a member of the aviation committee of the Montgomery County Chamber of Commerce. He was also a member of Theta Kappa Psi medical fraternity.

*An obituary ordinarily will not be published more than four months after date of death. Coöperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

Miss La Verne Singletary and Dr. Corrigan were married September 18, 1935, in Shreveport, La. They are survived by a son, Joseph Corrigan, III; Dr. Corrigan's parents, Mr. and Mrs. Joseph Corrigan; and Mrs. Corrigan's mother, Mrs. Mabel Singletary, all of Shreveport.

Dr. Richard Bland Ford, Corpus Christi, Texas, died suddenly of heart disease at his home November 30, 1946.

The son of Mr. and Mrs. J. B. Ford, Dr. Ford was born April 8, 1901, at Monroe, Okla. He attended Oklahoma Agricultural and Mechanical College at Stillwater and received his bachelor of science degree from the University of Oklahoma, Norman, in 1926. In 1928 he was graduated from the University of Oklahoma School of Medicine, Oklahoma City. After serving a one year rotating internship, he remained for a two year fellowship in surgery at the Cleveland Clinic. Dr. Ford took a year of postgraduate work in surgery at the University of Vienna, Austria, in 1936. Dr. Ford practiced during 1931 in Tulsa, Okla. In 1932 he went to Holdenville, but returned in 1938 to Tulsa, where he was located until called to military service in 1940. He was stationed for two years in Corpus Christi as a naval officer, also serving at Pensacola, Fla., twenty-three months in the Pacific as a flight surgeon, and as head of the medical department of the naval base at Pasco, Wash. Upon his discharge from the Navy with the rank of commander, Dr. Ford began his practice in Corpus Christi in May, 1946, with Dr. M. J. Perkins.

DR. RICHARD B. FORD

Dr. Ford maintained his membership in the American Medical Association throughout his professional career. While practicing in Oklahoma, he was a member of the Tulsa County Medical Society and Oklahoma State Medical Association. At the time of his death he was a member of the State Medical Association of Texas through Nueces County Medical Society. He was also a member of the Association of Military Surgeons and of Beta Theta Pi fraternity.

On December 7, 1943, Dr. Ford married Miss Catherine Adelaide Dinn. Survivors include his wife, Corpus Christi; his mother, Mrs. J. B. Ford, and a brother, Joe Ford, both of Monroe, Okla.; and a sister, Betty Ford, New Orleans.

Dr. Elbert Goolsby, Paris, Texas, died of coronary occlusion November 23, 1946.

Born June 15, 1880, at Parks, Ark., Dr. Goolsby was the son of William Wade and Priscilla (Sullivan) Goolsby. He went to school in Quitman and Little Rock, Ark., and received his medical education at the University of Tennessee Medical Department, then at Nashville, being graduated in 1906. He later did postgraduate work in Chicago. His family had moved to Texas when Dr. Goolsby was still a boy, and he returned there to begin his medical practice. He was located at Direct for about ten years and then moved to Paris, where he was active until his death.

DR. ELBERT GOOLSBY

Dr. Goolsby had long been a member of the State Medical Association and American Medical Association through Lamar County Medical Society. In 1939 and again in 1945 he served the county organization as president. He was also a member of the Southern Medical Association. During World War II he was city and county health officer, and he was local surgeon for the Texas and Pacific and Santa Fe Railroads. He had been a member of St. Joseph's Hospital Staff for many years and was also on the Lamar Hospital board. He was a deacon and teacher of the men's Bible class in the First Baptist Church, was past president of the Lion's Club, a Mason, and a member of the Chamber of Commerce. In addition to his medical practice, Dr. Goolsby gave time to management of farm property and other real estate. He enjoyed fishing and golf in his leisure hours.

Survivors include Dr. Goolsby's wife, the former Miss Sallie Bryan, whom he married November 25, 1906, at Shop Spring, Tenn.; a daughter, Christine Goolsby, Paris; and two brothers, J. B. Goolsby and O. K. Goolsby, both of Idabel, Okla.

Dr. Henry G. Hertel, Giddings, Texas, died December 7, 1946, in a Brenham hospital of heart disease, with which he had been acutely ill about a week.

The son of Charles and Josephine (Wilderman) Hertel, Dr. Hertel was born August 9, 1874, near Freeburg, Ill. He first went to school in the Hertel School, situated at his birthplace, and later attended Central Wesleyan College, Warrenton, Mo., from which he received his bachelor of science degree in 1895. After teaching two years in the East Saint Louis High School, he entered Washington University Medical School, Saint Louis, and was graduated in 1901. He practiced in East Saint Louis until 1909, when he came to Texas. For eight years Dr. Hertel was engaged in the land and lumber business at Port O'Connor, but in 1917 he resumed the practice of medicine, first at Ledbetter, and then within a few months at Giddings, where he continued to practice until his death.

Throughout most of his career in Giddings Dr. Hertel was a member of the Lee County Medical Society, State Medical Association, and American Medical Association. He was president of the Lee County Society in 1930 and 1944 and was county health officer at the time of his death. He was president of the county school board, member of the

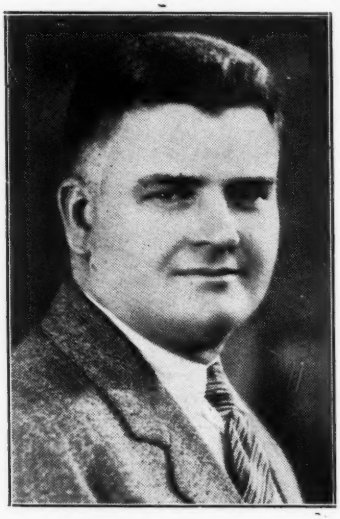
Lion's Club and of the Advisory Board for the city of Giddings, president of the Texas Highway 77 Association, chairman of the Lee County Highway Committee, director of civic improvement for the East Texas Chamber of Commerce, director and past president of Lee County Fair Association, member of Giddings Chamber of Commerce, and a member and past worshipful master of the Masonic lodge.

DR. H. G. HERTEL

Dr. Hertel is survived by his wife, Mrs. Lulu Hertel; a son, Charles Hertel, Granville, Ohio; a sister, Mrs. John J. Frick, Bay City; two brothers, Clarence Hertel, Corpus Christi, and Dr. G. E. Hertel, Austin, Minn.; and a grandson.

Dr. Edgar Wright Moss, for many years a physician of Collingsworth County, Texas, died December 7, 1946, at his home near Mission of coronary occlusion.

The son of John W. and Mary (Sanders) Moss, Dr. Moss was born January 27, 1882, at Lingleville, Erath County, Texas. He attended school at Lingleville and John Tarleton College, Stephenville. His medical education was received from Vanderbilt University, School of Medicine, Nashville, Tenn., and the old Southwestern University Medical College, Dallas, from which he was graduated in 1910. He interned at City Hospital, Dallas, and later pursued postgraduate studies at Tulane University, New Orleans, and Washington University, Saint Louis. In 1911 Dr. Moss went to Collingsworth County. He practiced for seven years at Quail, and then in 1919, after serving as a first lieutenant in the Army Medical Corps during World War I, he moved to Wellington, where he practiced the remainder of his active life. Ill health several years ago caused Dr. Moss to retire from practice, and he and Mrs. Moss had moved recently to make their home near Mission.



DR. E. W. MOSS

Throughout his professional life Dr. Moss was a member of the State Medical Association and American Medical Association, first through Dallas County Medical Society, then through Childress-Collingsworth-Donley-Hall Counties Medical Society, and after its organization Armstrong-Donley-Childress-Collingsworth-Hall Counties Medical Society. He was president of the county society in 1938 and 1944, and was elected to honorary membership in the State Medical Association in 1946. He was also a member of the Panhandle District Medical Society and the Southern Medical Association. He had been chairman of the section on obstetrics and gynecology of the Panhandle Society. He was a member of the Church of Christ and the American Legion.

On March 9, 1921, Dr. Moss married Miss Bess Carpenter, Wellington, who survives, as do two sisters, Mrs. Sim Price, Eastland, and Mrs. Stella Price, Lingleville; and three brothers, W. T. Moss and M. C. Moss, Lingleville, and J. M. Moss, Des Moines, N. M.

Dr. Holmes Ely Perrine, formerly of Fort Worth, Texas, died of tuberculosis in a Dallas hospital on November 22, 1946.

Dr. Perrine, son of Samuel E. and Katharyn Perrine, was born January 18, 1909, in Jamesburg, N. J. He attended Lawrenceville School, Lawrenceville, N. J., and Yale University, New Haven, Conn., from which he received a bachelor of arts degree in 1932. His medical degree was obtained at Temple University School of Medicine, Philadelphia, in 1936. He served an internship at Bridgeport General Hospital, Bridgeport, Conn., and a residency in neurology at Lenox Hill Hospital, New York. He was junior physician with the New Jersey State Hospital, Greystone, N. J., and the New York Hospital, Westchester Division, White Plains, N. Y. He also did work at the Graduate School of Medicine, University of Pennsylvania, Philadelphia. In 1942 Dr. Perrine began the practice of neurology and psychiatry in Fort Worth, but ill health forced him to give up his work in 1945.

DR. HOLMES E. PERRINE

While Dr. Perrine was in practice in Fort Worth he was a member of the Tarrant County Medical Society, State Medical Association, and American Medical Association. He conducted psychological examinations for military inductees of Tarrant and Dallas Counties during World War II. He was a Presbyterian and a Mason.

Dr. Perrine is survived by his mother, Mrs. Katharyn H. Coe, Fort Worth.